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June 5, 2014

HAND DELIVERY

Office of Chief Clerk
ATTN: Agenda Docket Clerk
Texas Commission on Environmental
Quality
Mail Code 105
P. O. Box 13087
Austin, Texas 78711-3087

RE: TCEQ Docket No. 2014-0692-AIR
Freeport LNG Development, L.P.
Pretreatment Facility
Air Quality Permit Nos. 104840, PSDTX 1302, N170

Dear Docket Clerk:

Enclosed for filing in the above referenced matter please find an original and 7 copies of Applicant Freeport LNG Development, L.P.'s Response to Hearing Requests and Request for Reconsideration. Also please find an additional copy to be file-stamped and returned to the undersigned. All parties of record have been served pursuant to the Certificate of Service attached to the Response.

Please let me know if you have any questions. Thank you for your assistance.

Very truly yours,

Celina Romero

CR:ph

Enclosures

TCEQ DOCKET NO. 2014-0692-AIR

APPLICATION BY FREEPORT LNG DEVELOPMENT, L.P., PRETREATMENT FACILITY, FOR AIR QUALITY PERMIT NOS. 104840, PSDTX 1302, AND N170	§	**BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

APPLICANT'S RESPONSE TO HEARING REQUESTS AND REQUEST FOR RECONSIDERATION

TO THE HONORABLE COMMISSIONERS:

Freeport LNG Development, L.P. ("FLNG") submits the following response in opposition to three requests from individuals and one request purportedly made on behalf of an association for a contested case hearing filed with respect FLNG's application for an air quality permit authorizing construction of its proposed Pretreatment Facility, and to one request for reconsideration. This application seeks to authorize sources of non-greenhouse gas emissions. A separate application to authorize sources of greenhouse gas ("GHG") emissions at this site is the subject of an application that is pending with EPA, which will be transferred to the Texas Commission on Environmental Quality ("TCEQ") upon program approval.[1] FLNG believes that each and every one of the requests for hearing and the one request for reconsideration filed in this TCEQ docket should be denied. In support of its response, FLNG would show the Commission as follows:

I. Background and Description of Facility.

FLNG is proposing to construct a Liquefaction Project that would allow it to convert domestically produced natural gas to liquefied natural gas ("LNG") for storage and export. The

[1] Indeed, FLNG has already indicated its selection of the TCEQ as its final permit authority by letter dated March 27, 2014 from Mark Mallet, Senior V.P. - Operations & Projects, FLNG to Wren Stenger, Director of Multimedia Planning and Permitting Division, EPA.

Liquefaction Project will allow domestically produced natural gas to be exported in the form of LNG and thereby allow FLNG's customers to respond favorably and proactively to short-term and longer-term fluctuations in domestic and global gas markets.

The proposed Liquefaction Project consists of two plant sites – the Pretreatment Facility and the Liquefaction Plant.[2] The Pretreatment Facility will be located approximately 3.5 miles inland to the northeast of the proposed Liquefaction Plant and FLNG's existing import terminal, and along FLNG's existing 42-inch natural gas pipeline route. The Pretreatment Facility will purify pipeline quality natural gas, which then will be sent to the Liquefaction Plant for the production of LNG. Specifically, pipeline quality natural gas will be delivered to the Pretreatment Facility from interconnecting pipeline systems through FLNG's existing Stratton Ridge meter station. The gas will be pretreated to remove carbon dioxide, sulfur compounds, water, mercury, benzene, toluene, xylenes, and natural gas liquids. The pre-treated natural gas will then be delivered to the Liquefaction Plant through FLNG's 42-inch gas pipeline, where it will undergo a refrigeration process and be converted into LNG.

The proposed Liquefaction Plant, which will convert natural gas to LNG for export, will be constructed adjacent to FLNG's existing LNG import terminal on Quintana Island near Freeport, Texas. The import terminal has been in operation since 2008. The proposed Liquefaction Plant and the existing import terminal will have certain shared facilities, such as LNG storage tanks, ship docks, buildings, control room, electrical equipment and connecting pipelines. Due to operational constraints, however, when the Liquefaction Plant is operating the import terminal will not be performing re-gasification operations.

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[2] *See* Map, depicting an overview of the relative locations of the Pretreatment Facility, the Liquefaction Plant and the existing Import Terminal. Exhibit 1-C to the Affidavit of Ruben I. Velasquez ("Velasquez Affidavit), which is attached hereto as Exhibit 1.

The Pretreatment Facility will consist of three natural gas treatment trains with the following major pieces of equipment: an amine sweetening system, a molecular sieve dehydration system, a mercury removal unit, additional electrical compression units, connecting laterals for natural gas supply to the Liquefaction Plant, and miscellaneous vessels. In addition, the Pretreatment Facility will include a heating medium system that will be integrated with a gas combustion turbine system to be constructed for on-site power production. The heating medium will be circulated from the combustion turbine waste heat recovery system to low and high temperature heat exchangers in the amine units.

The Liquefaction Plant will consist of three electric-motor driven mixed-refrigerant trains with propane pre-cooling, each capable of producing a nominal 4.4 million tons (metric tons) per annum of LNG, which equates to a total liquefaction capacity of approximately 1.98 billion standard cubic feet per day of natural gas. Emission sources at the Liquefaction Plant consist of the intermittent sources of one ground flare, two fire water pump engines, seven emergency generators, nine small diesel tanks, and associated equipment leak fugitives. By electing to use electric motors to run the refrigeration and compression process, FLNG has virtually eliminated all continuous emission sources during normal operations (other than fugitives) from the Liquefaction Plant; over 90% of the emissions were eliminated as compared to similarly sized, natural gas-driven turbines.[3]

[3] Based on FLNG's analysis, had it utilized natural gas-driven turbines instead of electric motors, emissions from these sources would have been 353 tpy of NOx and 429 tpy of CO. *Also, compare* Corpus Christi Liquefaction, LLC project, TCEQ Docket No. 2013-1191-AIR, Air Permits Nos. 105710 and PSDTX 1306 which proposes the use of eighteen (18) gas-fired compressor turbines and seeks to authorize 2347 tpy of NOx and 2258 tpy of CO for a nominal capacity of 2.1 billion standard cubic feet per day of LNG; FLNG's proposed combined emissions are 65.8 tpy of NOx and 94.2 tpy of CO for its Liquefaction Project with a nominal capacity of 1.98 billion standard cubic feet per day of LNG – meaning that FLNG's proposed facility will have approximately 3% of the NOx and 4% of the CO emissions as compared to the similarly sized Corpus Christi Liquefaction project.

The Liquefaction Project is an integrated project with two plant sites for which separate air quality permits will be issued for each plant site in accordance with to 30 Tex. Admin. Code § 116.143(1). EPA required aggregation of the two plant sites for purposes of the GHG permit application.[4] Accordingly, in order to be consistent with EPA's aggregation of the two sites, FLNG requested TCEQ to combine the proposed emissions from the Pretreatment Facility and the Liquefaction Plant in the application review process and evaluate them together for purposes of applicability of PSD and NNSR and in the modeling for air quality impacts review. But for this combined review that was required by EPA for GHG permitting purposes, the plants are considered separate facilities with separate air permits.

The aggregation of emissions for these purposes resulted in more conservative PSD and NNSR determinations and modeling and impacts evaluations than if each plant site had been evaluated separately.[5] For example, if the estimated emissions from the two plants were

[4] EPA's decision to require aggregation of the two plant sites for purposes of the GHG application is now called into question by the recent D.C. Circuit Court decision in *National Environmental Development Association's Clean Air Project v. EPA*, No. 13-1035 (D.C. Cir., May 30, 2014) ("*Clean Air Project*"). In that case, the D.C. Circuit set aside an EPA Directive restricting the Sixth Circuit's decision in *Summit Petroleum Corp. v. EPA*, 690 F.3d 733 (6th Cir. 2012) ("*Summit*") to air permitting decisions in areas only under the jurisdiction of the Sixth Circuit. In *Summit*, the Sixth Circuit held that EPA may no longer consider interrelatedness in determining adjacency when making source determination decisions in the context of Title V or NSR permitting. The effect of EPA's Directive to apply *Summit* to a limited geographic area created a dual standard throughout the United States and on that basis was set aside by the D.C. Circuit. Accordingly, had EPA had the decision in *Clean Air Project* before it when determining whether to aggregate FLNG's two plant sites for purposes of the GHG application, it would have been required to reach the opposite conclusion and determine that aggregation is not required in this instance. These cases and the effects of aggregation of these two plant sites are discussed in more depth in FLNG's Response to Hearing Requests filed in the docket for the Liquefaction Plant, TCEQ Docket No. 2014.0691-AIR.

[5] In addition, the fact that FLNG performed modeling reviews based on the combined emissions of the proposed plants results in a more conservative analysis of the impacts of emissions at a particular receptor. If the more conservative modeling analysis demonstrates that a particular hearing requestor will not be significantly impacted by the proposed emissions from the combined plant sites, an evaluation of impacts from the individual plant site would also show no significant impacts. *See* Affidavit of Thomas Dydek, PhD, DABT, PE, ("Dydek Affidavit"), attached hereto as Exhibit 2 (stating that the evaluation of the impact of the emissions from the project as a whole, results in a more conservative analysis than the impacts from the emissions from the Liquefaction Plant by itself.) *See* Exhibit 2 at n. 1.

reviewed independently, the Pretreatment Facility would be considered to be a major source subject to PSD and NNSR review while the Liquefaction Plant would be considered a minor source, not subject to PSD or NNSR. Atmospheric dispersion modeling of air contaminant emissions from the two plants together allows for the evaluation of possible locations where emissions from both plants may overlap and perhaps result in a greater impact that might not otherwise be as significant if the two plants were modeled independently of each other.

The hearing and reconsideration requestors in the case proceeding on the Pretreatment Facility and the Liquefaction Plant expressed a desire for a hearing on one permit application or the other by directing their request specifically to one draft permit or the other. Accordingly, the requests for hearing should be evaluated in the context of the potential impacts from the specific plant site for which the requestor expressed a desire for a hearing. Questions about how far the hearing requestor is from the proposed plant site, the direction of the prevailing winds, the amount of emissions, and potential impacts on the requestor's health and use of property should be analyzed with respect to the plant for which the requestor expressed a desire for a hearing. This kind of plant-specific review and analysis and ultimate referral to the State Office of Administrative Hearings ("SOAH") is consistent with Commission rules. Aggregation of emissions for application evaluation purposes does not equate to aggregation of plant sites for purposes of evaluating requests for hearing.[6]

Accordingly, FLNG addresses in this Response the requests for hearing and reconsideration that were filed in the docket for the Pretreatment Facility. By separate filing, on

[6] This treatment is appropriate because to do otherwise would discourage future applicants from aggregating emissions from otherwise separated, but interrelated, facilities. By aggregating, the public received the benefit of a higher scrutiny of the proposed emissions from the two plants than if they had been separately evaluated. But there is no corresponding benefit in the combined review of requests for hearings and if such a practice were encouraged, future applicants would be deterred from a practice that in the long run provides greater protections to the public and the environment.

this same date, FLNG is filing a Response to Hearing Requests filed in the docket for the Liquefaction Plant. As to the requests for hearing filed with respect to the Pretreatment Facility, FLNG's analysis herein demonstrates that none of the hearing requestors can demonstrate that she is an affected person and all of the requests for hearing filed in this docket should be denied.

II. Air dispersion modeling and toxicological analysis confirm that emissions from the Pretreatment Facility will not adversely impact the Hearing Requestors.

It is important to emphasize at the outset that air dispersion modeling and toxicological analysis was performed on an aggregate basis. As stated in the Velasquez Affidavit, "[t]his is a conservative procedure since the maximum concentration from all sources modeled concurrently cannot be more than the sum of the maximum concentration from each source modeled separately."[7] Even with this conservatism built into the modeling conducted, the modeling results confirm that emissions from the Liquefaction Project will not have any adverse impacts. To the contrary, those analyses show that emissions from the Liquefaction Project as a whole – *i.e.*, Liquefaction Plant emissions *combined with* Pretreatment Facility emissions – will be many orders of magnitude below the applicable federal and state air quality standards.

To begin with, air modeling submitted to and approved by TCEQ in the permit application review process demonstrated that emissions from the Liquefaction Project will be in compliance with all applicable state and federal air quality standards. Notably, no requestor has disputed the results or the procedures used in the air modeling within its comments or request for contested case. These air modeling results, approved by TCEQ and undisputed by the requestors, demonstrated that Liquefaction Project emissions will comply with applicable Prevention of Significant Deterioration ("PSD") NAAQS requirements and all applicable State

[7] *See* Velasquez Affidavit, Exhibit 1 at 3.

Property Line Standards.[8] That modeling also showed that Liquefaction Project emissions will be below applicable effects screening levels ("ESLs").[9]

Further, FLNG went beyond this analysis to ensure that there would not be any adverse impacts at the locations of the individual Hearing Requestors' residences. Specifically, FLNG consultants performed air modeling analysis to determine impacts of air contaminants emitted from the Liquefaction Project occurring at a receptor point closest to each Hearing Requestor's residence.[10] This modeling analysis was then reviewed by a Board Certified Toxicologist, Dr. Thomas Dydek, Ph.D, D.A.B.T., P.E, to determine whether the Hearing Requestors would suffer any adverse health effects as a result of the level of emissions predicted to occur at the location of their residences. The results of Dr. Dydek's analysis are summarized in his Affidavit, which is attached hereto as Exhibit 2. Specifically, Dr. Dydek concludes "the Hearing Requestors will not be affected in any way by the emissions from the proposed Freeport LNG Pretreatment Facility."[11] Dr. Dydek summarized his conclusions as follows:

> The following Tables 1a and 1b show the maximum predicted impacts of air contaminants at the Requestors' residences ranged from 0.01% to 1.4% of the applicable National Ambient Air Quality Standards. Another way to express this is that the predicted impacts were from 70 to 10,000 times lower than the NAAQS.
>
> The following Tables 2a and 2b show the maximum predicted impacts at the residences ranged from 0.07% to 0.22% of the State of Texas Property Line Standards. In other words, the impacts at the Requestors' residences were from 450 to 1,400 times lower than those standards.
>
> The following Tables 3a and 3b show the maximum predicted impacts at the residences for chemicals having ESLs ranged from 0.00000001% to 1.6% of the

[8] *Id.* at 2-3.

[9] *Id.* at 3.

[10] *Id.*

[11] *See* Dydek Affidavit, Exhibit 2 at 11.

ESLs for those chemicals. Put another way, these impacts were from 62 to 1.0 billion times lower than the applicable ESLs.[12]

Dr. Dydek also explains that the federal and state health standards referenced above are conservatively set because they are set at levels protective of the health and welfare of even the most sensitive members of the general population with an adequate margin of safety. Similarly, ESLs are very conservative because they are set at levels that typically are orders of magnitude smaller than exposure levels that can actually cause adverse health effects.

The air dispersion modeling upon which Dr. Dydek's conclusions are based was also conservative in that it likely over-predicted levels of air contaminants that could actually occur, given that the modeling was based on the assumption that maximum emissions would occur during those hours in which meteorological conditions least favor the dispersion of those air contaminants.[13] Finally, as stated above, modeled emissions were emissions not only from the Liquefaction Plant but also from the Pretreatment Facility, meaning that impacts from the Liquefaction Plant alone would be expected to be even lower than the extremely minimal levels referenced in Dr. Dydek's analysis.[14]

Notwithstanding these various levels of conservatism built into the analysis, Dr. Dydek still concluded that the predicted maximum impacts at the Hearing Requestors' residences are "small percentages" of federal and state standards and guidelines.[15] This being so, none of the Hearing Requestors can demonstrate that they will be adversely impacted at all, much less in a

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[12] *Id.* at 5.

[13] *See* Velasquez Affidavit, Exhibit 1 at 4.

[14] *Id.* at 3 (stating "[a]gain, this analysis was conservative because it took into account combined emissions from both the proposed Pretreatment Facility and the proposed Liquefaction Plant, as opposed to emissions from each plant individually.").

[15] Dydek Affidavit, Exhibit 2 at 11.

manner not common to members of the general public, as a result of emissions from the proposed Liquefaction Plant.

III. Summary of Argument.

Three individuals request a contested case hearing on FLNG's permit application for the Pretreatment Facility: Diana Stokes, Melanie Oldham, and Laura Jones. Although her request is unclear, it appears that Ms. Jones also requests a hearing on behalf of an association of which she claims to be a member, Save Our Subdivisions ("SOS"). The TCEQ database lists a Quintana, Texas resident named Harold Doty as requesting a hearing with regard to the permit application for the Pretreatment Facility, but this is incorrect. In a letter to TCEQ dated February 26, 2014, Mr. Doty requested a contested case hearing "on Proposed Air Quality Permit numbers 100114, PSDTX1282, and N150," *i.e.*, the Liquefaction Plant. While this letter was filed in the docket for both the Pretreatment Facility and the Liquefaction Plant, it is clear by its terms that Mr. Doty is only requesting a hearing on the Liquefaction Plant and not the Pretreatment Facility.[16]

The hearing requests filed by Ms. Stokes, Ms. Oldham, and Ms. Jones (on her own behalf and on behalf of SOS) are without merit and should be denied. The bases upon which each request should be denied are discussed in Section IV and can be summarized as follows:

1. Diana Stokes failed to provide her address and distance relative to the proposed facility. Without such information, the Commission cannot determine if she will be impacted by emissions from this plant. She also fails to qualify as an affected person because she has not identified any personal justiciable interest that might be adversely affected by the facility in a manner not common to members of the general public. The concerns that she raises are generalized complaints about the impact of the plant on the community at large. She does not identify an individualized impact to her that is distinguishable from that of the general public.[17]

[16] Accordingly, FLNG does not address Mr. Doty's request for a hearing in this Response; instead it is addressed in the Response to Requests for Hearing filed by FLNG in the docket for the Liquefaction Plant.

[17] An evaluation of the predicted concentration of air emissions from the Liquefaction Project at Ms. Stokes' residence was not possible because she did not provide her address. Should the Commission

2. Melanie Oldham failed to provide information regarding the distance of her residence to the proposed Pretreatment Facility, stating merely that she resides "near and downwind" of the plant, neither of which is correct. Based upon mapping developed by FLNG, Ms. Oldham actually lives 3.75 miles from the proposed Pretreatment Facility and she is upwind from the site based on prevailing wind patterns.[18] She fails to qualify as an affected person because she has not identified any personal justiciable interest that might be adversely affected by the facility in a manner not common to members of the general public. Indeed, her attempt to identify a particularized interest in this permit application is based solely on her demonstrably incorrect assertion that she resides "near and downwind" of the plant, combined with the assertion that emissions from the Pretreatment Facility can cause health problems. As demonstrated in the Dydek Affidavit, she will not suffer health effects from the emissions from the Liquefaction Project as the concentration of air pollutants at her residence is predicted to be a trace percent of the applicable national ambient air quality standard ("NAAQS"), State of Texas Property Line Standard or Effects Screening Level ("ESL").[19] Indeed, Dr. Dydek concludes that Ms. Oldham "will not be affected in any way from the proposed Freeport LNG Pretreatment Facility."[20] Moreover, since she resides 3.75 miles from the Pretreatment Facility she cannot distinguish her impacts from facility emissions in a manner different from members of the general public.

3. Laura Jones, whose residence is 1.63 miles away from the Pretreatment Facility site and is generally not downwind of the site,[21] has failed to qualify as an affected person because she has not identified any personal justiciable interest that might be adversely affected by the facility in a manner not common to members of the general public. She claims that emissions from the Pretreatment Facility will affect her health, along with the health of her husband and friends. However, because her residence is further than 1 mile from the Pretreatment Facility, under the Commission's rule of thumb she cannot demonstrate she is impacted by the emissions from the plant in a manner not common to members of the general public. Moreover, the Dydek Affidavit demonstrates that she will not suffer health effects from the emissions from the Liquefaction Project as the concentration of air pollutants at her residence is predicted to be a trace percent of

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permit Ms. Stokes to supplement the record and provide her address, FLNG reserves the right to supplement its response to her request and provide any additional information that may be needed.

[18] *See* Map attached as Exhibit 1-D to the Velasquez Affidavit.

[19] *See* Dydek Affidavit, Exhibit 2, stating that the maximum predicted impacts of air contaminants at the Requestor's residence ranged from 0.01% to 0.60% of the applicable NAAQS; 0.07% to 0.19% for the State of Texas Property Line Standards; and 0.00000002% to 1.5% of the ESLs. Exhibit 2 (Tables for Melanie Oldham).

[20] *See* Dydek Affidavit, Exhibit 2 at 11.

[21] *See* Map attached as Exhibit 1-D to the Velasquez Affidavit.

the applicable national ambient air quality standard ("NAAQS"), State of Texas Property Line Standard or Effects Screening Level ("ESL").[22] Indeed, Dr. Dydek concludes that Ms. Jones "will not be affected in any way from the proposed Freeport LNG Pretreatment Facility."[23] Ms. Jones also raises issues that implicate the interests of the public at large, such as placement of air monitors, light and noise pollution, increased load on power grids, socio-economic impact, and other generalized issues that in no way relate to Ms. Jones' particular and individualized interests. As such she fails to qualify as an affected person.

4. SOS is not entitled to a hearing because no individual member of the group has standing to request a hearing in his or her own right; in addition, Ms. Jones, who appears to attempt to request a hearing on SOS' behalf, has failed to provide basic information regarding the nature and purpose of the group; her purported authority to speak on the group's behalf; and whether that purpose would be furthered by the relief sought in the hearing request. Further, Ms. Jones, who is the only member who has come forward on behalf of SOS, has not demonstrated that she is entitled to a hearing on the Pretreatment Facility's application.

The following discussion analyzes each of the hearing requests made with respect to the proposed Pretreatment Facility and discusses why all of the requests should be denied.

IV. Analysis of Hearing Requests.

FLNG discusses below why all of the hearing requests filed with respect to the Pretreatment Facility are without merit and should be denied.

A. Legal Authority

The Commission may grant a request for a contested case hearing if the request is made by an affected person, is timely-filed, is in writing, lists all relevant and material disputed issues of fact that were raised, but not withdrawn, during the public comment period, that are the basis for the hearing request, and provides such other information specified in the public notice of the

[22] *See* Dydek Affidavit, Exhibit 2, stating that the maximum predicted impacts of air contaminants at the Requestor's residence ranged from 0.01% to 1.4% of the applicable NAAQS; 0.12% to 0.22% for the State of Texas Property Line Standards; and 0.00000001% to 1.6% of the ESLs. Exhibit 2 (Tables for Laura Jones).

[23] *See* Dydek Affidavit, Exhibit 2 at 11.

application.[24] An affected person is a person who has a "personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the administrative hearing."[25] In determining whether an individual is an affected person, the Commission considers the following:

1. Whether the interest claimed is one protected by the law under which the application will be considered;
2. Distance restrictions or other limitations imposed by law on the affected interest;
3. Whether a reasonable relationship exists between the interest claimed and the activity regulated;
4. The likely impact of the regulated activity on the health and safety of the person, and on the use of property of the person;
5. The likely impact of the regulated activities on the use of the impacted natural resource by the person; and
6. For governmental entities, their statutory authority over or interest in the issues relevant to the application.[26]

An interest common to the general public does not qualify as a personable justiciable interest.[27]

A request for a contested hearing from an affected person must be 1) in writing, 2) filed timely with the Chief Clerk of the Commission, and 3) may not be based on any issues that were raised solely in a public comment withdrawn by the commentor in writing or by filing a withdrawal letter with the chief clerk prior to the filing of the Executive Director's Response to Comment.[28] Additionally, the contested hearing request must include the following information:

1. The requestor's contact information or, if the requestor is a representative of a group or association, the requestor must identify who shall be responsible for receiving all official communication and documents for the group and provide the relevant contact information related thereto;
2. Identify the requestor's justiciable interest;
3. Specifically explain the requestor's location and distance relative to the proposed facility;

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[24] TEX WATER CODE §5.556(d); 30 TEX. ADMIN. CODE §55.201(d).

[25] TEX WATER CODE § 5.115(a); 30 TEX. ADMIN. CODE §55.203(a).

[26] 30 TEX. ADMIN. CODE §55.203(c).

[27] TEX WATER CODE §5.115(a); 30 TEX. ADMIN. CODE §55.203(a).

[28] 30 TEX. ADMIN. CODE §55.201.

4. Describe how and why the requestor believes he or she will be adversely affected by the proposed facility or activity in a manner not common to members of the general public;
5. List all relevant and material disputed issues of fact raised during the public comment period;
6. To the extent possible, specify any of the executive director's responses to comments that the requestor disputes and factual basis of the dispute and list any disputed issues of law or policy; and
7. Provide any other information specified in the public notice of application.[29]

As part of the description of the adverse impacts, the requestor must describe the requestor's use of nearby property and the alleged impact by the proposed facility.[30]

In evaluating affected person status the Commission typically informs its review by reference to a 1-mile "rule of thumb," that is, persons residing outside a 1-mile radius of the plant site will only be considered to be affected by the proposed air emissions in a manner common to that of the general public. In other words, these persons will not be found to be "affected persons" and entitled to a contested case hearing. Indeed in the context of the evaluation of other requests for hearing the ED has advocated for such a general "rule of thumb." *See, e.g.*, Executive Director's Response to Hearing Requests, *In re Regency Field Services, LLC*, TCEQ Docket No. 2010-0843-AIR at 8 (stating that "distance from the proposed facility is key to the issue whether or not there is a likely impact of the regulated activity on a person's interests (such as the health and safety of the person) and on the use of property of the person" and that "[t]he Executive Director has generally determined that hearing requestors who reside greater than one mile from the facility are not likely to be impacted differently than any other member of the general public.")[31]; *see also Collins v. TNRCC*, 94 S.W.3d 876 (Tex. App.—

[29] *Id.* § 55.201(d).

[30] 30 TEX. ADMIN. CODE §39.411(e)(11)(D).

[31] *Accord*, Executive Director's Response to Hearing Requests, *TPCO America Corporation*, TCEQ Docket No. 2010-0280-AIR at 5 (stating that "[t]he ED considers persons residing more than one mile of the proposed facility to be unlikely to be impacted differently from the general public.... Because the

Austin 2002, no pet.) (appellate court found substantial evidence in the record to support TNRCC's decision to deny a hearing request; the court noted that the hearing requestor lived 1.3 miles from the facility at issue and that evidence before the Commission indicated that the proposed facility was "very unlikely" to adversely affect the hearing requestor).

As discussed below, none of the requests filed in this matter meet the Commissions' standards for granting a contested case hearing.

B. Diana Stokes' request for hearing.

Diana Stokes submitted a request for contested case hearing on the proposed Pretreatment Facility on March 12, 2014. She submitted her request via TCEQ's e-filing system. In general, she states that she is a "resident of Hide-A-Way" (but, as noted below, fails to provide her address) and she makes a number of generalized complaints about the proposed facility. Ms. Stokes' request is deficient for two fundamental reasons: (1) she failed to provide basic information about the location of her residence and distance to the proposed Pretreatment Facility; and (2) she failed to identify how she will be adversely affected in a manner not common to members of the public.

Ms. Stokes failed to provide any information about the location of her residence. This glaring omission makes it impossible for the Commission to evaluate whether or how she will be impacted by the proposed emissions from the Pretreatment Facility.[32] This is not a mere technicality; rather, it is an essential element in making a determination on whether a particular

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requestors reside more than one mile from the proposed facility, they are not likely to be impacted differently than other members of the general public."); Executive Director's Response to Hearing Requests, *Jobe Materials, LP*, TCEQ Docket No. 2007-0491-AIR at 5 (the ED contended in his written response that because none of the hearing requestors resided within one mile of the proposed facility, their requests for hearing should be denied: "As they reside more than 1 mile from the proposed facility, they are not likely to be impacted differently than any other member of the general public.").

[32] Ms. Stokes also failed to provide her telephone number, in violation of 30 TEX. ADMIN. CODE § 55.201(d)(1).

requestor is or can be affected by the proposed emissions. Nor has Ms. Stokes provided information regarding the distance of her residence relative to the location of the Pretreatment Facility. In responding to hearing requests, the ED has often noted that a requestor's failure to provide an address makes it extremely difficult to assess whether the requestor might be an affected person. *See, e.g.*, Executive Director's Response to Hearing Requests, *Jobe Materials LP*, Docket No. 2007-0491-AIR at 4 ("The request of Ms. Takase does not provide a residential address. Therefore, with available information, it is impossible for the ED to determine the proximity of the requester relative to the proposed facility, and it is difficult to determine whether air emissions from the proposed facility will impact the requester in a way not common to the general public."). That is the case here. It is simply not possible to evaluate if, and to what extent, Ms. Stokes may be adversely affected by the proposed facility, because she has failed to provide the most basic sort of information, *i.e.*, where she lives, the location of her residence in relation to the proposed facility, and the distance from her residence to the proposed facility.

Ms. Stokes' request also fails because it does not identify any harm that is particular to her, *i.e.* the request fails to show how Ms. Stokes will be adversely affected in a manner not common to members of the general public. While Ms. Stokes states that she will be "personally affected" by the proposed Pretreatment Facility,[33] she does not state how. She merely states that that the Pretreatment Facility will be located in "close proximity to the established residential neighborhoods of Hide-Away, Turtle Creek, Oyster Creek Estates, Bridgepointe, city of Oyster

[33] Ms. Stokes refers to the Pretreatment Facility as a "chemical plant." The Pretreatment Facility is not a chemical plant; it is a natural gas treatment plant. Reference to the Pretreatment Facility as a chemical plant demonstrates a gross misunderstanding of the facility at issue and is misleading.

Creek, and Bridge Harbor...." Her allegation that the residents of these areas will be affected does not constitute a description of how *her* personal interests will be affected.

Ms. Stokes also states that the plan to site the proposed pretreatment facility near "established residential neighborhoods" represents "willful disregard for our health, safety, and financial welfare." But by her use of the term "our," Ms. Stokes is referring to the residents of various neighborhoods and the City of Oyster Creek and thus she is expressly admitting that her concern is one that is generalized and shared by all residents of the areas to which she refers. Thus by its very terms, this statement fails to distinguish Ms. Stokes' alleged harm from that of the public at large.

The same may be said for Ms. Stokes' generic complaint that facility emissions "pose health risks"; here again, Ms. Stokes fails to state how she stands to suffer particularized harm from such alleged risks. The closest she comes in this regard is to state that she is elderly and that emissions that would come from the Pretreatment Facility have been shown to cause or exacerbate health problems in the elderly. However, she also states that such effects are also felt by the "young and healthy." As such, she describes potential impacts that allegedly are felt across large portions of the population, which is the antithesis of describing an impact that is particular to her and that is different from the impact felt by the public at large. Thus, not only has Ms. Stokes failed to differentiate her concerns from those shared by elderly people in general, she also includes the young and healthy in the overall group at risk, thus completely failing to show how she herself stands to be impacted in a way different from the general public.

Ms. Stokes' complaint about emissions from facility construction also misses the mark because she fails to state how those emissions will cause her any particularized harm different from that felt by the general public ("residents will experience increasingly higher emissions");

moreover, construction emissions from mobile sources during construction are outside the purview of TCEQ's permit application review process and therefore, not germane to the determination of "affected person" status.

This pervasive failure to distinguish her potential harm from that of the general public is repeated throughout Ms. Stokes' request for contested case hearing; for example, she asserts that the Pretreatment Facility will add to Brazoria County smog conditions; that toxins will be carried to various neighborhoods; that poor persons will be forced to live in an unhealthy environment and financial instability; that there is no nearby air quality monitor; that there will be increased light and noise pollution; and that the pipeline will be a danger risk. Again, none of these complaints explains how Ms. Stokes would suffer harm in a manner different from any other member of the public, and as such they fail to establish that Ms. Stokes is an affected person under Commission rules.

In addition, many of those issues are completely irrelevant to the Commission's consideration of an air quality permit application. For ease of reference, FLNG has prepared a detailed analysis of the irrelevance of many of the issues raised by Ms. Stokes and the other Hearing Requestors, attached hereto as Exhibit 3. That discussion demonstrates that Ms. Stokes and the other Hearing Requestors have raised numerous issues that clearly are not germane to the Commission's consideration of an air permit application and do not present relevant and material disputed issues of fact upon which the Commission could refer this application to SOAH for a contested case hearing. *See* 30 Tex. Admin. Code § 50.115(c)(3) (the Commission may not refer an issue for resolution at a contested case hearing unless the issue "is relevant and material to the decision on the application.").

As stated above, to be eligible to request a contested case hearing, an individual must qualify as an "affected person." 30 Tex. Admin. Code § 55.201(b). An essential part of qualifying as an "affected person" under TCEQ rules, in turn, is the ability to distinguish one's individual position from that of the public at large: "[a]n interest common to members of the general public does not qualify as a personal justiciable interest." *Id.* § 55.203(a). Ms. Stokes' recitation of generic community concerns completely fails to differentiate her alleged potential harm from that of the general public.

For all of the above reasons, Ms. Stokes is not entitled to request a contested case hearing and her request should be denied.

C. Melanie Oldham's request for hearing.

Melanie Oldham's request for contested case hearing was made in writing and filed with the Commission on March 17, 2014. Ms. Oldham provides her address (603 W.7th St., Freeport, TX 77541) and telephone number, and she states that she will be adversely affected by the emissions from the proposed pretreatment facility in a manner not common to the general public because she is "near and downwind of this pretreatment plant." Ms. Oldham's request for hearing is deficient and should be denied because, while she claims to reside near and downwind of the site, FLNG mapping refutes that claim and in fact demonstrates that she is 3.75 miles away.[34] And, contrary to her assertion, her residence is not downwind from the Pretreatment Facility site based on prevailing wind patterns. This being so, Ms. Oldham cannot identify any way in which she might be adversely affected by the facility in a manner not common to members of the general public.

[34] *See* Map attached as Exhibit 1-D to the Velasquez Affidavit.

Ms. Oldham has failed to provide all the information required of a hearing requestor under Commission rules.[35] She failed to provide any specific information about her proximity to the Pretreatment Facility. Instead, she merely provides her address and then states that her residence is "near and downwind" of the proposed facility. Neither TCEQ staff nor the applicant should have to plot the requestor's residence on a map and then compare it to the location of the proposed facility; the rules place that burden on the person requesting the hearing, and Ms. Oldham has failed to satisfy that burden.

Ms. Oldham also fails to demonstrate that she qualifies as an affected person. Her attempt to identify an interest not common with the general public is based entirely on an unsubstantiated (and inaccurate) claim that her home is near and downwind of the facility combined with the general assertion that facility emissions can cause health problems. However, Ms. Oldham never identifies how her health might be adversely affected by emissions from this facility. Moreover, Dr. Dydek's analysis demonstrates that Ms. Oldham "will not be affected in any way by the emissions from the proposed Freeport LNG Pretreatment Facility."[36] Indeed, based on the predictive modeling analysis summarized and referred to in the Dydek Affidavit, the concentrations of air contaminants originating from the Liquefaction Project that would occur at Ms. Oldham's residence are only trace amounts. At Ms. Oldham's residence the maximum predicted air contaminant level compared to a NAAQS was 0.60% of the applicable NAAQS level. The maximum predicted air contaminant level compared to a State Property Line Standard at Ms. Oldham's residence was 0.19% of the applicable Property Line Standard.

[35] 30 TEX. ADMIN. CODE § 55.201.

[36] *See* Dydek Affidavit, Exhibit 2 at 11.

Finally, the maximum predicted air contaminant level compared to an ESL at Ms. Oldham's residence was 1.5% of the applicable ESL.[37]

In addition, Ms. Oldham's claim to be near and downwind of the facility is demonstrably inaccurate. She in fact is neither near nor downwind of the facility; to the contrary, FLNG mapping shows that she is 3.75 miles away and to the southwest; while prevailing winds are generally in a southeast-to-northwest direction, or a north-to-south direction.[38] Further, Ms. Oldham's residence is well beyond the Commission's 1-mile rule of thumb for affected person status.

In her submission, Ms. Oldham asserts that some of the emissions that will occur at the facility "can" cause health problems in a general sense. This is a speculative assertion that fails to confer standing, *see Saden v. Smith*, 415 S.W.3d 450, 455 (Tex. App. – Houston [1st Dist.] 2013, pet. denied) (stating that a party has standing only when he raises an actual grievance, not a hypothetical grievance). In addition, such speculation also fails to explain why Ms. Oldham is an affected person with some sort of particularized interest, given that she is located at a substantial distance from the facility and is not downwind based on prevailing wind patterns.

Further, Ms. Oldham has completely failed to show a likely impact of the regulated activity on her health and on the use of her property. As stated above, Ms. Oldham's residence is 3.75 miles to the southwest of the Pretreatment Facility. A person who is that far away from the facility at issue, and who is not downwind, cannot demonstrate that the regulated activity will have a likely impact on the person's health, safety, or property use. As indicated above, Ms. Oldham has failed to identify any such impact, and Dr. Dydek has confirmed the absence of any such impact.

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[37] *See* Dydek Affidavit, Exhibit 2 (Tables for Melanie Oldham).

[38] *See* Map attached as Exhibit 1-D to the Velasquez Affidavit.

Finally, Ms. Oldham attempts to raise an issue that on its face is irrelevant to the Commission's consideration of FLNG's air permit application: the claimed need for additional air monitors in the vicinity of the plant site. As FLNG explains in Exhibit 3, ambient air quality monitoring is not a requirement of air permitting, and any issue regarding the number and placement of monitors is outside of the Commission's purview in reviewing an air permit application and does not qualify as a relevant and material disputed issue of fact upon which the Commission can refer this application to SOAH for a contested case hearing.

For all of the foregoing reasons, Ms. Oldham's request for a contested case hearing regarding the Pretreatment Facility is not valid and should be denied.

D. Laura Jones' request for hearing.

Laura Jones requests a hearing on her own behalf and as a representative of SOS. As with the other Hearing Requestors, Ms. Jones raises many issues that are not pertinent to TCEQ's assessment of an air quality permit application, *e.g.* mobile source emissions from construction vehicles, light pollution, noise pollution, and socio-economic impact. FLNG demonstrates the irrelevance of these issues in Exhibit 3.

Ms. Jones also raises issues specifically pertaining to the health effects that allegedly may be caused by emissions from the proposed facility. She claims to suffer from respiratory and auto-immune issues, and to have a family history of heart disease and heart attacks, all of which, she claims, makes her susceptible to adverse health impacts from emissions from the proposed facility. Despite these claims, Ms. Jones' request for contested case hearing should be denied, both with respect to the request she makes on her own behalf and with respect to the request that she makes on behalf of SOS.

Ms. Jones claims that her address, 190 Sky Sail Road in Freeport, is 1.5 miles north of the proposed Pretreatment Facility location. According to FLNG's analysis and mapping, Ms. Jones' residence is 1.63 miles to the north-northeast of the plant site.[39] She is well beyond the distance established by the Commission's 1-mile rule of thumb and her request should be denied on this basis alone. As stated above, TCEQ staff has often advocated a one-mile rule of thumb such that affected person status in the permit hearing context would be withheld from persons living over a mile away from the facility at issue.[40] Moreover, application of such a standard has been upheld by the Court of Appeals. In *Collins v. TNRCC, supra*, the court considered whether the hearing requestor, who lived 1.3 miles away from the site of proposed lagoons that were to be used for a poultry farm waste-management wet system, would be impacted by odors and/or groundwater impacts from the lagoons. The court found substantial evidence in the record to support TNRCC's decision to deny the hearing request. In support of the denial of the hearing request, the applicant submitted windroses to demonstrate that odors from the lagoons would not impact the hearing requestor and an expert's affidavit demonstrating that the lagoons would not result in degradation of the hearing requestor's water resources. The court noted that the hearing requestor lived 1.3 miles from the facility at issue and cited evidence before the Commission indicating that the proposed facility was "very unlikely" to adversely affect the hearing requestor.

Like the *Collins* decision, the Commission has before it maps, windroses, and expert analyses demonstrating there will be a lack of impact on Ms. Jones that is any different from that of the general public. As the attached maps and windroses demonstrate, Ms. Jones' residence is not downwind from the Pretreatment Facility site because prevailing winds tend to blow either in

[39] *See* Map attached as Exhibit 1-D to the Velasquez Affidavit.

[40] *See* authorities referenced at pp. 13-14 and n. 31 *supra*.

in a southeast-to-northwest direction or a north-to-south direction. Moreover, Dr. Dydek's analysis demonstrates that Ms. Jones "will not be affected in any way by the emissions from the proposed Freeport LNG Pretreatment Facility."[41] Indeed, based on the predictive modeling analysis summarized and referred to in the Dydek Affidavit, the concentrations of air contaminants originating from the Liquefaction Project that would occur at Ms. Jones' residence are only trace amounts. At Ms. Jones' residence the maximum predicted air contaminant level compared to a NAAQS was 1.4% of the applicable NAAQS level. The maximum predicted air contaminant level compared to a State Property Line Standard at Ms. Jones' residence was 0.22% of the applicable Property Line Standard. Finally, the maximum predicted air contaminant level compared to an ESL at Ms. Jones' residence was 1.6% of the applicable ESL.[42] Accordingly, Ms. Jones cannot demonstrate that the proposed Pretreatment Facility will have an impact on her health and safety or her use of property.[43]

Ms. Jones' failure to raise issues that implicate her own personal justiciable interests, as opposed to effects that might be felt by the members of the general public, is further demonstrated by her expression of a concern over the general absence of air monitors and the allegedly inappropriate placement of those monitors that do exist. She claims that prevailing winds will carry emissions from the Pretreatment Facility toward her residence, "the opposite direction of where any of the monitors are" currently. She also contends that current monitors are far removed from her neighborhood and the location of the proposed facility. What she does not do, however, is identify any way in which any of these issues raises a concern that is particular to her and thus is not common to members of the general public. Air monitoring, and

[41] *See* Dydek Affidavit, Exhibit 2 at 11.

[42] *See* Dydek Affidavit, Exhibit 2 (Tables for Laura Jones).

[43] *See* 30 TEX. ADMIN. CODE § 55.203(c)(4).

the geographic placement of air monitors, is inherently a generalized exercise aimed at assessing ambient air quality. Air monitors are placed by either TCEQ or the U.S. Environmental Protection Agency to capture information over relatively broad geographic areas in order to ensure protection of the general public; air monitors are not designed or intended to determine individual impacts. Ms. Jones does not stand to suffer some unique or particularized impact due to the allegedly inappropriate placement of monitors in the general vicinity of the Pretreatment Facility. Indeed, she does not even allege that she has a particularized interest with respect to the location of air monitors. Therefore, this issue cannot serve as the basis for a finding that Ms. Jones is an affected person.

Ms. Jones raises various additional concerns that cannot qualify as "personal justiciable interests" in this permit proceeding because they do not implicate Ms. Jones' personal interests nor do they stand to affect her in a way different from that the general public. For example, Ms. Jones complains about potential light pollution, noise pollution, harm to wildlife and vegetation, increased load on power grids, mobile source emissions from construction vehicles, and the general socio-economic impact of the proposed facility. However, Ms. Jones fails to suggest any way in which these alleged issues might cause an impact on her that would be different from the impact felt by the general public. As the Austin Court of Appeals wrote in the course of denying standing to challenge development of land over the Edwards Aquifer, "there is nothing to distinguish the environmental, scientific, or recreational concerns of [the party at issue] from the same concerns experienced by the public in general." *Save Our Springs Alliance, Inc. v. City of Dripping Springs*, 304 S.W.3d 871, 882 (Tex. App. – Austin 2010, pet. denied). Absent a specific indication that the Pretreatment Facility might impact her in a way that is different from

the impact felt by the general public, Ms. Jones does not qualify as an affected person and thus is not entitled to a contested case hearing.

E. SOS' request for hearing.

Laura Jones appears to be requesting a hearing not only on her own behalf but also on behalf of SOS. However, Ms. Jones fails to provide any detail whatsoever about SOS that might satisfy 30 Tex. Admin. Code § 55.205(a), which sets out the requirements that an association must meet in order to request a contested case hearing. In accordance with 30 Tex. Admin. Code § 55.205(a), in order to obtain associational standing, an association must satisfy all of the following factors:

1. One or more of its members would otherwise have standing to request a hearing in his/her own right;
2. The interests the group or association seeks to protect are germane to the organization's purpose; and
3. Neither the claim asserted nor the relief requested requires the participation of the individual members in the case.

Yet Ms. Jones has not provided any information to support a claim by SOS to associational standing. To the contrary, Ms. Jones' cursory reference to SOS in her request for hearing fails to provide basic information such as her alleged authority to request a hearing on SOS' behalf and the extent to which the interests that she seeks to advance are consistent with the interests of the group as a whole, whatever those unidentified group interests may be. Among the information that Ms. Jones fails to provide is the following:

1. Identification of the group's purpose.
2. Explanation as to how the interests that Ms. Jones / SOS seeks to protect in this matter are germane to the group's purpose.
3. Statement of the identity and location of the group's members.

4. Statement of why Ms. Jones is authorized to act or speak on behalf of SOS.

5. Confirmation that SOS supports Ms. Jones' request for a contested case hearing on its behalf.

6. Explanation as to how was any such support memorialized, e.g., by group vote or otherwise.

7. Statement of how the group's members stand to be harmed in ways different from that of the general public.

Ms. Jones should have provided this information in her hearing request in order to establish SOS' purported associational standing. *Cf. Texas Ass'n of Business v. Texas Air Control Board*, 852 S.W.2d 440, 446 (Tex. 1993) (a group attempting to establish associational standing must allege facts that affirmatively demonstrate the court's jurisdiction to hear the claim). Her failure to do so undermines any attempt by SOS to request or participate in a contested case hearing. Such information goes directly to the issue of whether it is appropriate for SOS to request and participate in a contested case hearing and to the extent to which Ms. Jones is authorized to speak for the group.

In particular, we note that one of the requirements that a group must satisfy in order to request a contested case hearing is a showing that the interests that the group seeks to protect are germane to the organization's purpose. *See* 30 Tex. Admin. Code § 55.205(a)(2). In this case the issue of whether the group's purpose is consistent with the relief sought by Ms. Jones is particularly relevant in light of the fact that SOS publicly *lauded* FLNG for siting the Pretreatment Facility at its current proposed location. On April 22, 2012, SOS took out a large advertisement in the local "The Facts" newspaper to thank FLNG "for listening to the environmental and safety concerns" of local communities and relocating the proposed Pretreatment Facility to its current proposed location, a decision that SOS praised as

demonstrating "corporate and social awareness."[44] These statements by SOS not only undermine any attempt by the organization now to claim that emissions from the Pretreatment Facility located in the same praiseworthy location will cause harm to its members, they also directly call into question the extent to which Ms. Jones' individual complaints about the current proposed location of the Pretreatment Facility are consistent with the views and goals of the SOS group as a whole.

Further, as noted above, in order to obtain associational standing, an association must demonstrate that one or more of its members would otherwise have standing to request a hearing in his/her own right. 30 Tex. Admin. Code § 55.205(a)(1). As the Executive Director wrote in a recent case involving a claim to associational standing:

> Under § 55.205, one of the primary considerations is whether at least one member of the group or association would have standing to request a hearing in their own right as an affected person. Affected persons are defined by Tex. Water Code § 5.115 and implemented in commission rule 30 TAC § 55.203. Under 30 TAC § 55.203, an affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application. An interest common to members of the general public does not qualify as a personal justiciable interest.[45]

SOS fails to meet this standard. Ms. Jones has failed to identify any member of SOS that has standing to request a contested case hearing. The only member of SOS purporting to seek a contested case hearing on SOS' behalf is Ms. Jones. As demonstrated above, however, Ms. Jones lacks standing to request a contested case hearing due to her failure to qualify as an affected person. Because Ms. Jones lacks standing to request a hearing, so too does SOS. Failure to

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[44] *See* Exhibit 4. SOS made this statement at a time when the new (and current) proposed location of the Pretreatment Facility was publicly known; indeed, just four days earlier, on April 18, 2012, "The Facts" carried an op-ed piece stating as follows: "After months of strong opposition to the CR 792 site originally being considered, the company has entered into an option to purchase about 400 acres about a mile southeast of Oyster Creek, near the corner of Levee Road and Highway 332." *See* Exhibit 5.

[45] Executive Director's Response to Hearing Requests, *Citgo Refining and Chemicals Co.*, Docket No. 2013-2078-AIR at 3.

satisfy one of the three prongs of the test set forth in 30 Tex. Admin. Code § 55.205(a) is fatal to a group's ability to request a contested case hearing.[46]

The fact that an association cannot obtain a contested case hearing if a member of the group is not entitled to a hearing in his or her own right was recently emphasized in a decision by the Austin Court of Appeals. In *Sierra Club v. TCEQ*, No. 03-11-102-CV (Tex. App.—Austin, April 4, 2014), the Sierra Club requested a contested case hearing on the merits of an application for a waste disposal license sought by Waste Control Specialists ("WCS"), asserting that two of Sierra Club's members (Ms. Gardner and Ms. Williams) who lived in Eunice, New Mexico and relied on local water wells would be affected by issuance of the license. After the Commissioners voted to deny Sierra Club's request for hearing, Sierra Club appealed, arguing that it had demonstrated that at least one of its members had a justiciable interest affected by the license.

The court of appeals disagreed, holding that TCEQ had not abused its discretion in deciding that neither of the two individual Sierra Club members was an affected person. On that basis, the court of appeals upheld TCEQ's decision to deny Sierra Club's request for a contested case hearing. The court of appeals wrote:

> [I]t would have been reasonable, and thus within TCEQ's discretion, to conclude that Gardner and Williams are not affected persons because the licensed activity will have minimal effect on their health, safety, use of property, and use of natural resources.... Likewise, it would have been reasonable for TCEQ to determine that Gardner's and Williams's stated concerns over possible traffic and railway accidents involving by-product materials were not reasonably related to the disposal of byproduct at the WCS site because TCEQ has no jurisdiction over the transportation of radioactive materials and because the permit does not allow WCS to receive by-product material by rail.... Relatedly, it would have been reasonable for TCEQ to determine that Gardner is not an affected person given

[46] *See South Texas Water Authority v. Lomas*, 223 S.W.3d 304, 308 (Tex. 2007) (making clear that failure to satisfy any prong of the three-part associational standing test results in a lack of standing on the part of the group; because group member failed to demonstrate individual standing to contest a water-supply contract, the group itself lacked associational standing to sue on behalf of its members).

> that her concern regarding the effects of possible negative publicity on her business is not reasonably related to the WCS facility because the relevant regulations involve public health, safety, and the environment—not publicity.... Finally we would note, as did the Executive Director, that Gardner's and Williams's concerns about the licensed activity are shared by the general public.... In sum, we cannot say that TCEQ abused its discretion in deciding that neither Gardner nor Williams is a person who would be affected by the proposed permit under the relevant factors. Accordingly, it was within TCEQ's discretion to deny the hearing request .... and in fact, it would have been an abuse of TCEQ's discretion to grant the hearing request upon such a determination....[47]

Much the same can be said about SOS' ability to obtain a hearing based on Ms. Jones' claim to standing. As was the case in *Sierra Club v. TCEQ*, in the present case the group member at issue, Ms. Jones, is not an affected person because, *inter alia*, she lives 1.63 miles from the facility site, her residence is not downwind of the site based on prevailing wind patterns, and the permitted activity will have no effect on her health, safety, use of property, and use of natural resources, as Dr. Dydek has confirmed.[48] Similarly, as in *Sierra Club v. TCEQ*, Ms. Jones has raised numerous concerns that are not reasonably related to consideration of the air permit at issue because those concerns relate to matters beyond the purview of TCEQ's permit review in this matter. Finally, as in *Sierra Club v. TCEQ*, Ms. Jones has failed to demonstrate any way in which her concerns about the Pretreatment Facility are particular to her and different from concerns shared by the general public. *See Save Our Springs Alliance, supra*, 304 S.W.3d at 882 (environmental group lacked standing where its members' concerns were indistinguishable from concerns experienced by the general public). Accordingly, the *Sierra*

[47] Slip op. at 15-16.

[48] *See* Dydek Affidavit, Exhibit 2 at 11 (concluding that "the Hearing Requestors will not be affected in any way by the emissions from the proposed Freeport LNG Pretreatment Facility.").

Club decision stands as strong support for the Commission's denial of SOS' request for hearing in the present case.[49]

For all of the above reasons, the Commission should deny the hearing request on behalf of SOS.

V. Response to Request for Reconsideration.

One person, Robert Pratt, requested reconsideration of the Executive Director's decision. Mr. Pratt states that the threshold for VOC permitting is 25 tpy, and he complains about FLNG's "attempt[] to report" 24.96 tpy of VOC emissions. Mr. Pratt contends that "[r]eporting should be done in a minimum 2 significant figures and no more than 3 significant figures," a method that he contends would transform 24.96 tpy into 25 tpy, thus requiring VOC permitting.

Mr. Pratt's contention is incorrect. The point of measuring emissions for permitting purposes is to arrive at a precise, accurate calculation of the amount of emissions that will occur at the permitted source. If calculated emissions at a source are 24.96 tpy, then that is the figure that should be used for permitting purposes. There is no reason to change that accurate actual tpy figure to a less accurate figure by rounding, either to 25 tpy or to 24.90 tpy. The one purported authority cited by Mr. Pratt in support of his argument, an EPA document from 1990, does not support Mr. Pratt's position. Indeed, that document relates to how a source should report emissions from an operating facility for compliance purposes, rather than how emissions should be calculated for permitting purposes.

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[49] *See also Reed v. Tanglewilde Civic Club*, 431 S.W2d 362, 364 (Tex. Civ. App.—Houston [1st Dist.] 1968 (writ ref'd n.r.e.) (plaintiff sued on behalf of an unincorporated association and on behalf of 560 families who were residents of a subdivision to recover the replacement cost of real estate subdivision entrance markers; defendants contended that plaintiffs lacked a justiciable interest because they had no interest in the markers different from other members of the public, and the court of appeals agreed with defendants: "We are of the view that the appellee and those for whom it sued ... had no different right in the pylons than the public in general. Under such circumstances, they had no justiciable interest ....").

TCEQ practice in the air permitting context is to base permitting decisions on the actual tpy figure calculated by the source. That is the practice that should be followed here, and as such the permitting tpy figure is 24.96 tpy, below VOC permitting thresholds.

PRAYER FOR RELIEF

WHEREFORE, PREMISES CONSIDERED, Freeport LNG Development, L.P., respectfully requests that the Honorable Commissioners of the Texas Commission on Environmental Quality deny all requests for contested case hearing and request for reconsideration filed in this matter. Furthermore, Freeport LNG Development, L.P., respectfully requests that the Honorable Commissioners approve the issuance of Air Quality Permit Nos. 104840, PSDTX 1302 and N170.

In the event that the Commission determines, for purposes of this proceeding, that any of the hearing requestors is an affected person entitled to request a contested case hearing, Freeport LNG Development, L.P. presents in attached Exhibit 3 an analysis of the issues that may constitute relevant and material disputed issues of fact upon which a contested case hearing may be held. In addition, should the Commission decide to grant one or more requests for hearing, Freeport LNG Development, L.P. recommends that the contested case hearing last no longer than 3 months from the preliminary hearing to the proposal for decision and that the period of time from the referral to SOAH to the preliminary hearing be no more than 45 days.

Respectfully Submitted,

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ATTORNEYS FOR FREEPORT LNG DEVELOPMENT, L.P.

CERTIFICATE OF SERVICE

I certify that a true and correct copy of this Response to Hearing Requests and Request for Reconsideration was served on each of the persons listed on the Mailing List attached hereto, in accordance with TCEQ rules, on June 5, 2014.

_____
Celina Romero

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EXHIBIT 1

TCEQ DOCKET NO. 2014-0692-AIR

APPLICATION BY FREEPORT LNG DEVELOPMENT, L.P., PRETREATMENT FACILITY, AIR QUALITY PERMIT NOS. 104840, PSDTX 1302 AND N170	**§**	**BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

AFFIDAVIT OF RUBEN I. VELASQUEZ, P.E.

State of Texas §
County of Travis §

Before me, the undersigned Notary Public in and for Travis County Texas, personally appeared RUBEN I. VELASQUEZ, P.E., the affiant, whose identity is known to me. After I administered an oath, affiant testified as follows:

1. My name is Ruben I. Velasquez. I am over 18 years of age, of sound mind, and capable of making this affidavit. The facts in this affidavit are within my personal knowledge and are true and correct.

2. I am a registered Professional Engineer with the Texas Board of Professional Engineers and I hold the position of Senior Engineer, Air Quality at Atkins North America, Inc. ("Atkins"), a design, engineering and project management consulting company. My experience includes more than 25 years of work in the field of air quality, including experience with air permitting, air quality evaluations, and emissions calculations. The use of "Atkins" in this affidavit may include Atkins and its subconsultants that performed work on behalf of Atkins.

3. I have prepared this Affidavit in support of Applicant Freeport LNG Development, L.P.'s ("FLNG") Response to Hearing Requests and Request for Reconsideration on FLNG's air quality permit applications for its proposed Pretreatment Facility. The Pretreatment Facility along with FLNG's proposed Liquefaction Plant will be located in the Freeport, Texas area and will be referred to herein as the "Liquefaction Project." On behalf of FLNG, Atkins prepared the air quality permit applications for FLNG's proposed Liquefaction Project.

4. The Liquefaction Project is an integrated project with two plant sites for which separate air quality permits will be issued for each plant site in accordance with 30 Tex. Admin. Code § 116.143(1). In order to be consistent with the U.S. Environmental Protection Agency's ("EPA's") aggregation of the two sites,[1] FLNG requested the Texas Commission on

[1] EPA required aggregation of the two plant sites for purposes of the GHG application; accordingly, to be consistent with the determination by EPA for the GHG application, FLNG requested TCEQ to combine the emissions for the two plant sites for PSD and NNSR applicability and air impacts modeling reviews in the applications for the non-GHG emissions.

Environmental Quality ("TCEQ") to combine the proposed emissions from the Pretreatment Facility and the Liquefaction Plant in the application review process and evaluate them together for purposes of applicability of Prevention of Significant Deterioration ("PSD") and Nonattainment New Source Review ("NNSR") and in the modeling for air quality impacts review. Accordingly, under my direction, Atkins performed air dispersion modeling to determine the maximum off-property impacts (*i.e.* ground level airborne concentrations) of the combined air contaminants to be emitted from the proposed Freeport LNG Liquefaction Project. This modeling was conservative because, among other things, it took into account combined emissions from the proposed Pretreatment Facility and the proposed Liquefaction Plant, rather than the emissions from each individual site.

5. The proposed Liquefaction Project will emit five air contaminants that have a national ambient air quality standard ("NAAQS"): carbon monoxide ("CO"), nitrogen dioxide ("NO_2"), sulfur dioxide ("SO_2"), particulate matter less than 10 microns in diameter ("PM_{10}"), and particulate matter less than 2.5 microns in diameter ("$PM_{2.5}$"). The Liquefaction Project will also emit three air contaminants that have State of Texas standards: SO_2, hydrogen sulfide ("H_2S"), and sulfuric acid mist ("H_2SO_4"). Non-criteria air contaminants to be emitted from the Liquefaction Project include ammonia and various volatile organic compounds ("VOCs").

6. TCEQ air quality permits are "pre-construction" permits. Therefore, computer-based methods are used to predict the impacts of emissions that will occur once the plants are built. This type of computer modeling is referred to as air dispersion modeling. Air dispersion modeling is a well-accepted method by which off-property air concentrations of chemicals emitted from emission sources are predicted. The model used by permit applicants seeking air quality permits from the TCEQ is called AERMOD, and this is the model that was used by Atkins to perform the air dispersion modeling discussed in paragraphs 7-12 below. This model was developed and tested by the U.S. Environmental Protection Agency.

7. The air modeling analysis involved the following steps: the Significance Analysis, the PSD NAAQS Analysis, and the PSD Increment Analysis. Under my direction, the Significance Analysis was conducted to determine if the emissions increases from the project cause a significant impact upon the area surrounding the facilities, with the term "significant" being defined by ambient concentration thresholds referred to as the Significant Impacts Levels ("SIL"). *See* 40 CFR § 51.165(b). The Significance Analysis addressed the predicted impacts from emissions of CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. Because maximum predicted concentrations were all less than the corresponding SILs for CO, NO_2, SO_2, and PM_{10}, no further analysis was required for those pollutants. A PSD NAAQS and Increment Analysis was required for the $PM_{2.5}$ 24-hour and annual averaging periods because modeled impacts indicated that emissions of $PM_{2.5}$ would result in maximum predicted concentrations exceeding the PSD NAAQS and Increment forms of the SIL for the 24-hour and annual averaging periods. Therefore, under my direction, Atkins performed a Full Impact Analysis, consisting of a PSD NAAQS Analysis and a PSD Increment Analysis, for the $PM_{2.5}$ 24-hour and annual averaging periods. The results of these analyses showed that maximum predicted concentrations at all significant receptors within the radius of impact were below the PSD NAAQS Standard and the PSD Increment Standard for the $PM_{2.5}$ 24-hour and annual averaging periods. Therefore, compliance with the PSD NAAQS and the PSD Increment standards was demonstrated.

8. In addition, under my direction, Atkins performed a State Property Line Analysis. This involved modeling of site-wide SO_2, H_2S, and H_2SO_4 emissions from the Pretreatment Facility and the Liquefaction Plant to demonstrate compliance with State Property Line Standards. The results of this analysis were that maximum predicted concentrations were less than State Property Line Standards, meaning that compliance with the standard was demonstrated and no further analysis was required.

9. Under my direction, Atkins also performed a State Health Effects evaluation, wherein site-wide n-hexane, toluene, p-xylene, benzene, isobutene, n-butane, isopentane, n-pentane, and ammonia emissions from the Pretreatment Facility and the Liquefaction Plant were evaluated using the flowchart in the Modeling and Effects Review Applicability (MERA) guidance from the TCEQ Toxicology Division. Using Step 11 of the MERA flowchart, the maximum predicted concentrations for benzene, isobutene, n-butane, isopentane, n-pentane, and ammonia emissions were compared to the appropriate effects screening levels ("ESLs"). The results of this analysis showed that maximum predicted concentrations for these constituents were less than their respective ELS, meaning that no further analysis was required.

10. The air dispersion modeling discussed in paragraphs 7-9 was conducted in accordance with standard and accepted modeling protocols. The modeling results were reviewed and approved by the TCEQ Air Dispersion Modeling Team, as shown by the November 20, 2013 Air Quality Analysis Audit Memo attached hereto as Exhibit 1-A.

11. Under my direction, Atkins subsequently performed air modeling analysis to determine impacts of air contaminants emitted from the proposed Pretreatment Facility at the residences of Hearing Requestors Laura Jones and Melanie Oldham. A true and correct copy of the results of this analysis is attached hereto as Exhibit 1-B. Again, this analysis was conservative because it took into account combined emissions from both the proposed Pretreatment Facility and the proposed Liquefaction Plant, as opposed to emissions from each plant individually. This analysis was based on the modeling work described in paragraphs 7-10 above which, as stated above, was reviewed and approved by TCEQ's Air Dispersion Modeling Team. That air dispersion modeling generated a receptor grid spreading across a defined local geographical area, consisting of many individual points where potential impacts could be assessed. To analyze potential impacts at individual Hearing Requestors' residences for NAAQS and State Property Line values, the particular receptor points closest to each residence were located and the predicted values modeled for those points were determined. For ESL values, the basic underlying modeling data that had previously been submitted to and approved by TCEQ staff was used to determine the predicted values at the receptor points closest to each residence identified using a ratio technique. This technique used a unit emission rate to determine if the maximum contribution from each permitted source when added together, independent of time and space, could exceed an ESL at the receptor point closest to the nearest residence. This is a conservative procedure since the maximum concentration from all sources modeled concurrently cannot be more than the sum of the maximum concentration from each source modeled separately. All of the modeling for impact at individual hearing requestors' residences was conducted in accordance with standard and accepted modeling protocols.

12. The airborne air concentrations predicted by the air dispersion modeling referenced above are conservative; that is, they likely over-predict the levels of air contaminants that could actually occur in the vicinity of the proposed Freeport LNG Pretreatment Facility and/or at the residences of the Hearing Requestors. For example, it was assumed that the maximum emissions would occur during the hours in which meteorological conditions least favor the dispersion of those air contaminants.

13. The results of the air dispersion modeling referred to in paragraphs 7-12 above were provided to Dr. Thomas Dydek for his use in analyzing the impacts of emissions from FLNG's Liquefaction Project.

14. In addition, Atkins prepared, under my direction, (a) an "Area Map of Facilities" showing the overall layout of the Liquefaction Project and (b) an "Area Map of Proposed Pretreatment Facility" showing the distance between the proposed Pretreatment Facility and the residences of Hearing Requestors Melanie Oldham and Laura Jones. True and correct copies of those maps are attached hereto as Exhibits 1-C and 1-D, respectively.

15. I obtained the Hearing Requestors' addresses from information that they provided in their hearing requests, available from the TCEQ docket for this proceeding. Under my direction Atkins mapped those addresses, and made the distance measurements shown on those maps, using the ArcGIS software program licensed by Environmental Systems Research Institute. Under my direction Atkins also caused a wind rose to be prepared for inclusion on the "Area Map of Proposed Pretreatment Facility" map, which is based on meteorological data maintained by TCEQ related to the Angleton Brazoria Airport Surface Station, obtained from the TCEQ website.

Ruben I. Velasquez, P.E.

Sworn and subscribed before me by Ruben I. Velasquez on June 5, 2014.

Notary Public in and for the State of Texas

My commission expires: 06/30/15

ROSIE LANGENFELD
Notary Public, State of Texas
My Commission Expires
June 30, 2015

TCEQ Interoffice Memorandum

To: Sean O'Brien
Combustion/Coatings Section

Thru: Daniel Menendez, Team Leader
Air Dispersion Modeling Team (ADMT)

From: Matthew Kovar
ADMT

Date: November 20, 2013

Subject: Air Quality Analysis Audit – Freeport LNG Development LP (RN106481500)

1. Project Identification Information

Permit Application Number: 104840
NSR Project Number: 181065
ADMT Project Number: 4069
NSRP Document Number: 484604
County: Brazoria
ArcReader Published Map: \\tceq4apmgisdata\GISWRK\APD\MODEL PROJECTS\4069\4069.pmf

Air Quality Analysis: Submitted by Atkins North America, Inc., July 2013, on behalf of Freeport LNG Development LP. Additional information was submitted August and October, 2013.

2. Report Summary

The air quality analysis (AQA) is acceptable for all review types and pollutants. The results are summarized below.

A. De Minimis analysis

A De Minimis analysis was initially conducted to determine if a full impacts analysis would be required. The De Minimis analysis modeling results indicate that $PM_{2.5}$ exceeds the respective de minimis concentrations and requires a full impacts analysis. The De Minimis analysis modeling results for PM_{10} and NO_2 indicated that the project is below the respective de minimis concentrations and no further analysis is required.

The justification for selecting the EPA's interim 1-hr NO_2 De Minimis level was based on the assumptions underlying EPA's development of the 1-hr NO_2 De Minimis level. As explained in EPA guidance memoranda[1], the EPA

[1] www.epa.gov/nsr/documents/20100629no2guidance.pdf

believes it is reasonable as an interim approach to use a De Minimis Level that represents 4% of the 1-hr NO_2 NAAQS.

The applicant provided an evaluation of ambient $PM_{2.5}$ monitoring data, consistent with draft EPA guidance for $PM_{2.5}$[2], for using the $PM_{2.5}$ De Minimis levels. If the monitoring data shows that the difference between the $PM_{2.5}$ NAAQS and the monitored $PM_{2.5}$ background concentrations in the area is greater that the $PM_{2.5}$ De Minimis level, then the proposed project with predicted impacts below the De Minimis level would not cause or contribute to a violation of the $PM_{2.5}$ NAAQS and does not require a full impacts analysis. See the discussion below in the air quality monitoring section for additional information on the evaluation of ambient $PM_{2.5}$ monitoring data.

While the De Minimis levels for both the NAAQS and increment are identical for $PM_{2.5}$ in the table below, the procedures to determine significance (that is, predicted concentrations to compare to the De Minimis levels) are different. This difference occurs because the NAAQS for $PM_{2.5}$ are statistically-based, but the corresponding increments are exceedance-based.

Table 1. Modeling Results for PSD De Minimis Analysis in Micrograms Per Cubic Meter (µg/m³)

Pollutant	Averaging Time	GLCmax (µg/m³)	De Minimis (µg/m³)
PM_{10}	24-hr	4.95	5
PM_{10}	Annual	0.88	1
$PM_{2.5}$ (NAAQS)	24-hr	4.5	1.2
$PM_{2.5}$ (NAAQS)	Annual	0.76	0.3
$PM_{2.5}$ (Increment)	24-hr	4.95	1.2
$PM_{2.5}$ (Increment)	Annual	0.88	0.3
NO_2	1-hr	4.64	7.5
NO_2	Annual	0.49	1

The 24-hr $PM_{2.5}$ (NAAQS) GLCmax is the highest five-year average of the maximum predicted 24-hr average concentrations determined for each receptor across five years of meteorological data. The annual $PM_{2.5}$

[2]www.epa.gov/ttn/scram/guidance/guide/Draft_Guidance_for_PM25_Permit_Modeling.pdf

(NAAQS) GLCmax is the highest five-year average of the maximum predicted annual average concentrations determined for each receptor across five years of meteorological data.

The 1-hr NO_2 GLCmax is the highest five-year average of the maximum predicted 1-hr average concentrations determined for each receptor across five years of meteorological data.

The GLCmax for all other pollutants and averaging times are the maximum predicted concentrations associated with five years of meteorological data.

B. Air Quality Monitoring

The De Minimis analysis modeling results indicate that PM_{10} and NO_2 are below their respective monitoring significance levels.

Table 2. Modeling Results for PSD Monitoring Significance Levels

Pollutant	Averaging Time	GLCmax (µg/m³)	Significance (µg/m³)
PM_{10}	24-hr	4.95	10
NO_2	Annual	0.49	14

The GLCmax are the maximum predicted concentrations associated with five years of meteorological data.

The applicant evaluated ambient $PM_{2.5}$ monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for $PM_{2.5}$ were obtained from the EPA AIRS monitor 482010058 located at 7210 1/2 Bayway Dr., Baytown, Harris County. The three-year average (2010-2012) of the 98th percentile of the annual distribution of the 24-hr average concentrations was used for the 24-hr value (21 µg/m³). The three-year average (2010-2012) of the annual average concentrations was used for the annual value (11.1 µg/m³). The use of this monitor is reasonable based on the applicant's analysis of county emissions, population, and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

C. National Ambient Air Quality Standard (NAAQS) Analysis

The De Minimis analysis modeling results indicate that $PM_{2.5}$ exceeds the respective de minimis concentrations and requires a full impacts analysis. The full NAAQS modeling results indicate the total predicted concentrations will not result in an exceedance of the NAAQS.

TCEQ Interoffice Memorandum

Table 3. Total Concentrations for PSD NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax (µg/m³)	Background (µg/m³)	Total Conc. = [Background + GLCmax] (µg/m³)	Standard (µg/m³)
$PM_{2.5}$	24-hr	10.63	22	32.63	35
$PM_{2.5}$	Annual	2.35	9	11.35	12

The 24-hr $PM_{2.5}$ GLCmax is the highest five-year average of the 98th percentile of the annual distribution of the maximum predicted 24-hr average concentrations determined for each receptor across five years of meteorological data. The annual $PM_{2.5}$ GLCmax is the highest five-year average of the maximum predicted annual average concentrations determined for each receptor across five years of meteorological data.

Background concentrations for $PM_{2.5}$ were obtained from the EPA AIRS monitor 483550025 located at 902 Airport Blvd., Corpus Christi, Nueces County. The three-year average (2008, 2009, and 2012) of the 98th percentile of the annual distribution of the 24-hr average concentrations was used for the 24-hr value. The three-year average (2008, 2009, and 2012) of the annual average concentrations was used for the annual value. The years 2010 and 2011 do not contain a sufficient number of samples to be complete, but the applicant evaluated monitoring data for years 2008 and 2009 for this monitor and showed that the monitor values were comparable. The use of this monitor is a reasonable representation of the current air quality levels of $PM_{2.5}$ associated with non-industrial emission sources near the project site. In addition, the monitor is located near the industrial emission sources of the Corpus Christi ship channel. Lastly, industrial emission sources of $PM_{2.5}$ located near the project site were included in the model.

The applicant performed an analysis on secondary $PM_{2.5}$ formation as part of the PSD AQA. The applicant evaluated the project emissions of $PM_{2.5}$ precursor emissions (NO_x and SO_2). The project will result in a proposed increase of NO_x emissions greater than 40 tons per year (tpy) and a proposed increase of SO_2 emissions less than 40 tpy.

Since the project SO_2 emissions are less than the $PM_{2.5}$ precursor significant emission rate (SER) for SO_2, significant secondary $PM_{2.5}$ formation due to the proposed SO_2 emissions is not expected. Significant secondary formation of $PM_{2.5}$ is not expected based on the following information:

- The predicted primary $PM_{2.5}$ impacts fall below the respective De Minimis levels approximately two kilometers (km) from the project sources.

- The predicted NO_2 impacts are also below their respective De Minimis levels.
- Secondary $PM_{2.5}$ formation occurs as a result of chemical transformations that occur in the atmosphere gradually over time and only a portion of the NO_x emissions would be affected. Furthermore, secondary $PM_{2.5}$ formation from NO_x is unlikely to overlap in time or space with nearby maximum primary $PM_{2.5}$ impacts associated with the project sources.

Freeport LNG Development LP is located in Brazoria County, which is part of the Houston-Galveston-Brazoria ozone non-attainment area. Therefore, an ozone analysis is not required as part of the AQA.

D. Increment Analysis

The De Minimis analysis modeling results indicate that $PM_{2.5}$ exceeds the respective de minimis concentrations and required a PSD increment analysis.

Table 4 .Results for PSD Increment Analysis

Pollutant	Averaging Time	GLCmax (µg/m³)	Increment (µg/m³)
$PM_{2.5}$	24-hr	4.88	9
$PM_{2.5}$	Annual	0.89	4

The 24-hr GLCmax is the maximum predicted high, second high (H2H) concentration associated with five years of meteorological data. The annual GLCmax is the maximum predicted concentration associated with five years of meteorological data.

E. Additional Impacts Analysis

The applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that population will not significantly increase as a result of the proposed project. The applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 TAC 111. The Additional Impacts Analyses are reasonable and possible adverse impacts from this project are not expected.

The ADMT evaluated predicted concentrations from the proposed site to determine if emissions could adversely affect a Class I area. The nearest

Class I area, Caney Creek Wilderness, is located approximately 610 km from the proposed site.

The H_2SO_4 24-hr maximum predicted concentration of 0.13 µg/m³ occurred along the northern property line. The H_2SO_4 24-hr maximum predicted concentration occurring at the edge of the receptor grid, approximately 11 km from the proposed sources, in the direction of the Caney Creek Wilderness Class I area is 0.006 µg/m³. The Caney Creek Wilderness Class I area is an additional 599 km from the edge of the receptor grid. Therefore, emissions of H_2SO_4 from the proposed project are not expected to adversely affect the Caney Creek Wilderness Class I area.

The predicted concentrations of PM_{10}, $PM_{2.5}$, NO_2, and SO_2 for all averaging times, are all less than de minimis levels at a distance of approximately 2 km from the proposed sources in the direction of Caney Creek Wilderness Class I area. Caney Creek Wilderness is an additional 608 km from the location where the predicted concentrations of PM_{10}, $PM_{2.5}$, NO_2, and SO_2 for all averaging times are less than de minimis. Therefore, emissions from the proposed project are not expected to adversely affect the Caney Creek Wilderness Class I area.

F. Minor Source NSR and Air Toxics analysis

Table 5. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m³)	Standard (µg/m³)
SO_2	1-hr	4.34	1021
H_2SO_4	1-hr	0.33	50
H_2SO_4	24-hr	0.13	15
H_2S	1-hr	0.86	108

The justification for selecting the EPA's interim 1-hr SO_2 De Minimis level was based on the assumptions underlying EPA's development of the 1-hr SO_2 De Minimis level. As explained in EPA guidance memoranda[3], the EPA believes it is reasonable as an interim approach to use a De Minimis Level that represents 4% of the 1-hr SO_2 NAAQS.

Table 6. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m³)	De Minimis (µg/m³)
SO_2	1-hr	4.34	7.8

[3] www.epa.gov/region07/air/nsr/nsrmemos/appwso2.pdf

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Pollutant	Averaging Time	GLCmax (µg/m³)	De Minimis (µg/m³)
SO_2	3-hr	3	25
SO_2	24-hr	1.67	5
SO_2	Annual	0.39	1
CO	1-hr	550	2000
CO	8-hr	325	500

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

Table 7. Minor NSR Site-wide Modeling Results for Health Effects

Pollutant & CAS#	Averaging Time	GLCmax (µg/m³)	ESL (µg/m³)
Ammonia 7664-41-7	1-hr	113	170
Benzene 71-43-2	1-hr	0.06	170
Benzene 71-43-2	Annual	0.004	4.5
Butane, n- 106-97-8	1-hr	93	66000
Isobutane 75-28-5	1-hr	126	23000
Isopentane 78-78-4	1-hr	10	3800
Pentane, n- 109-66-0	1-hr	3	4100

The 1-hr GLCmax for ammonia is located along the western property line. The distance between the GLCmax and the property line is not provided for all other pollutants given the approach used by the applicant to determine the model predictions (individual source predictions were summed independent of time and space). See the modeling techniques section for further details on the modeling approach. The applicant did not provide a GLCni.

3. Model Used and Modeling Techniques

AERMOD (Version 12345) was used in a refined screening mode.

A unitized emission rate of 1 lb/hr was used to predict a generic short-term and long-term impact for each source. The generic impacts for each applicable source

were summed to get a total generic impact for each pollutant. The total generic impact was multiplied by the proposed pollutant specific emission rates to calculate a maximum predicted concentration for each pollutant. This approach was used for all health effects analyses, excluding ammonia.

Two operational scenarios were modeled for the 1-hr NO_2 and 24-hr $PM_{10}/PM_{2.5}$ analyses. These scenarios represent operations of the heaters (EPNs 65B-81A, 65B-81B, 65B-81C, 65B-81D, and 65B-81E) and combustion turbine (EPN CT). The first scenario represents normal operations, which consists of three heaters operating concurrently with the combustion turbine and all other sources. The scenario was divided into three sub-scenarios based on the possible combinations of heater operation. The heaters will be arranged in a north-south line, and the sub-scenarios represent operations of the three northernmost heaters, the three southernmost heaters, and the three middle heaters. The second scenario represents the planned MSS scenario, which consists of all five heaters operating concurrently with startup/shutdown of the combustion turbine and all other sources. The results from the scenario with the highest predicted concentrations were reported in Tables 1, 2, 3 and 4. For the CO and SO_2 analyses, the maximum hourly emissions were modeled for all sources concurrently.

A. Land Use

Medium roughness and elevated terrain were used in the modeling analysis. These selections are consistent with the AERSURFACE analysis, topographic map, DEMs, and aerial photography. The selection of medium roughness is reasonable.

B. Meteorological Data

Surface Station and ID: Angleton, TX (Station #: 12976)
Upper Air Station and ID: Lake Charles, LA (Station #: 03937)
Meteorological Dataset: 2006 – 2010 for PSD analyses;
2008 for all other analyses
Profile Base Elevation: 8 meters

C. Receptor Grid

The grid modeled was sufficient in density and spatial coverage to capture representative maximum ground-level concentrations.

D. Building Wake Effects (Downwash)

Input data to Building Profile Input Program Prime (Version 04274) are consistent with the aerial photography, plot plan, and modeling report.

TCEQ Interoffice Memorandum

4. Modeling Emissions Inventory

The modeled emission point and area source parameters and rates were consistent with the modeling report. The source characterizations used to represent the sources were appropriate.

The computation of the effective stack diameters for the flares is consistent with TCEQ modeling guidance.

Hour-of-day scalars were used for certain off-property sources, and the use of these scalars is consistent with permit representations.

NO_x to NO_2 conversion factors of 0.8 and 0.75 were applied to the predicted 1-hr and annual NO_x concentrations, respectively, which is consistent with guidance for combustion sources.

The applicant evaluated the emergency generator engines and emergency air compressor engines at the liquefaction plant (EPNs LIQEG-1, LIQEG-2, LIQEG-3, LIQEG-4, LIQEG-5, LIQEG-6, and LIQEAC-1) and the pretreatment facility (EPNs PTFEG-1, PTFEG-2, PTFEG-3, PTFEG-4, PTFEG-5, and PTFEAC-1) based on EPA guidance for intermittent sources. The applicant modeled these sources using annual average emission rates for the 1-hr NO_2 NAAQS analysis. According to the applicant, the emergency generator engines and emergency air compressor engines are intermittent sources: each source will be tested once per week for two hours or less and no more than 50 hours per year.

The applicant evaluated the diesel firewater pump engines at the liquefaction plant (EPNs LIQFWP-1 and LIQFWP-2) and the pretreatment facility (EPN PTFWP-1) based on EPA guidance for intermittent sources. The applicant modeled these sources using annual average emission rates for the 1-hr NO_2 NAAQS analysis. According to the applicant, the diesel firewater pump engines are intermittent sources: each source will be tested once per week for two hours or less and no more than 100 hours per year.

The emergency generator engines, emergency air compressor engines, and diesel firewater pump engines were modeled with 24-hr average emission rates for the short-term $PM_{10}/PM_{2.5}$ averaging time analyses. The short-term emission rates for these sources were based on two hours of operation per day.

The applicant evaluated planned MSS emissions from the liquefaction emergency flare (EPN LIQFLARE) based on EPA guidance for intermittent sources. The applicant modeled this source using an annual average emission rate for the 1-hr NO_2 NAAQS analysis. According to the applicant, the liquefaction emergency flare is an intermittent source: each planned MSS event will last for 24 hours or less and no more than four events per year. The modeled annual average emission rates were based on the maximum amount of gas sent to the flare during a planned MSS event, not on operating time. The ADMT conducted test

modeling using annual average emission rates based on 96 hours and determined that this would not significantly affect the modeling results.

The applicant evaluated planned MSS emissions from the PTF flare (EPN PTFFLARE) based on EPA guidance for intermittent sources. The applicant modeled this source using an annual average emission rate for the 1-hr NO_2 NAAQS analysis. According to the applicant, the PTF flare is an intermittent source: it will be used for planned MSS events no more than eight hours per year.

The applicant evaluated the start-up/shutdown emissions from the combustion turbine (EPN CT) based on EPA guidance for intermittent sources. The applicant modeled this source using an annual average emission rate for the 1-hr NO_2 NAAQS analysis. According to the applicant, the start-up/shutdown of the combustion turbine is an intermittent source: each start-up/shutdown event will last for 90 minutes or less and no more than four events per year.

The start-up/shutdown emissions from the combustion turbine and lube oil vent (EPN LUBVENT) were modeled with 24-hr average emission rates for the short-term $PM_{10}/PM_{2.5}$ averaging time analyses. The short-term emission rates for these sources were based on 90 minutes of operation per day.

With the exception of the sources noted above, maximum allowable hourly emission rates were used for the short-term and annual averaging time analyses. Annual average emission rates were used for certain sources for the annual averaging time analyses for NO_2 and $PM_{10}/PM_{2.5}$.

Several existing sources at the Freeport LNG Quintana Island Terminal were not included in the $PM_{2.5}$ NAAQS analysis. These sources include Johnstone heaters (source IDs 689B_973, 689B_974, 689B_975 , 689B_976 , 689B_977, 689B_978, 689B_979, 689B_980, and 689B_981) and K-7 compressors (source IDs 689K_969, 689K_970, and 689K_971). According to the applicant, these sources will not be used once the Liquefaction project is constructed and operational. These sources will not operate concurrently with the Liquefaction project.

Class II SIL Results: Combined Modeling Impacts

					Harold Doty		Christopher Kall		Melanie Oldham		Laura Calvo Jones		James Kall		
					X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	
					272427.0527	3201016.859	272335.9817	3201341.072	270482.876	3204427.245	276199.4793	3210817.56	275253.2671	3203023.83	Residence Coordinates
Pollutant	Averaging Period	Year	SILs ($\mu g/m^3$)	NAAQS ($\mu g/m3$)	272,432	3,201,026	272,332	3,201,351	270,438	3,204,476	276,438	3,210,976	275,257	3,203,026	Closest Modeled Receptor Coodinates
PM_{10}	24-hour	MAX of 2006-2010	5	150	0.36		0.31		0.21		0.50		0.44		
	Annual	2006	1	none	0.02		0.02		0.01		0.02		0.03		
		2007			0.02		0.02		0.02		0.02		0.03		
		2008			0.02		0.02		0.01		0.03		0.03		
		2009			0.02		0.02		0.02		0.03		0.03		
		2010			0.02		0.02		0.02		0.02		0.02		
$PM_{2.5}$	24-hour	2006-2010	1.2	35	0.24		0.24		0.18		0.36		0.33		
		MAX of 2006-2010	1.2	35	0.36		0.31		0.21		0.50		0.44		
	Annual	2006-2010	0.3	12	0.02		0.02		0.02		0.02		0.03		
		2006	0.3	12	0.02		0.02		0.01		0.02		0.03		
		2007			0.02		0.02		0.02		0.02		0.03		
		2008			0.02		0.02		0.01		0.03		0.03		
		2009			0.02		0.02		0.02		0.03		0.03		
		2010			0.02		0.02		0.02		0.02		0.02		
NO_2	ARM 1-hour	2006-2010	7.5	188	0.85		0.89		0.81		0.85		0.72		
	ARM Annual	2006	1	100	0.02		0.02		0.01		0.01		0.02		
		2007			0.02		0.02		0.01		0.01		0.02		
		2008			0.02		0.02		0.01		0.01		0.02		
		2009			0.02		0.02		0.01		0.01		0.02		
		2010			0.02		0.02		0.01		0.01		0.02		
CO	1-hour	2008	2,000	40,000	61.08		64.97		68.89		66.10		60.69		
	8-hour	2008	500	10,000	18.86		33.18		21.14		24.35		26.18		
SO_2	1-hour	2008	7.8	196	0.97		1.06		1.05		1.20		0.94		
	3-hour	2008	25	1300	0.41		0.52		0.50		1.00		0.41		
	24-hour	2008	5	365	0.11		0.15		0.07		0.27		0.15		
	Annual	2008	1	80	0.01		0.01		0.01		0.01		0.01		

* Based on dispersion modeling performed in July 2013.
UTM Coordinates (meters) NAD 83

State Property Line Analysis Results: Combined Modeling Impacts

				Harold Doty		Christopher Kali		Melanie Oldham		Laura Calvo Jones		James Kall		
	Averaging		Standard	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	Residence Coordinates
Pollutant	Period	Year	($\mu g/m^3$)	272,432	3,201,026	272,332	3,201,351	270,438	3,204,476	276,438	3,210,976	275,257	3,203,026	Closest Modeled Receptor Coodinates
SO_2	30-min	2008	1021	0.97		1.06		1.05		1.20		0.94		
H_2S	30-min	2008	108	0.17		0.17		0.21		0.24		0.18		
H_2SO_4	1 hour	2008	50	0.07		0.08		0.08		0.09		0.07		
	24 hour	2008	15	0.01		0.01		0.01		0.02		0.01		

* Based on dispersion modeling performed in July 2013.
UTM Coordinates (meters) NAD 83

State Health Effects Evaluation (ESL Analysis): Combined Modeling Impacts

Constituents	CAS	TCEQ ESL		Harold Doty		Christopher Kall		Melanie Oldham		Laura Calvo Jones		James Kall		
				X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	
				272427.0527	3201016.859	272335.98	3201341.072	270482.88	3204427.245	276199.48	3210817.6	275253.27	3203023.83	Resident Coordinates
		[ST]	[LT]	272432	3201026	272332	3201351	270438	3204476	276438	3210976	275257	3203026	Closest Modeled Receptor Coodinates
		µg/m³	µg/m³	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	
Ammonia	7664-41-7	170	17	1.06	0.01	1.20	0.01	2.47	9.09E-03	2.76	0.01	3.43	0.02	
n-Hexane	110-54-3	5,300	200	9.94E-03	1.47E-06	8.75E-03	1.30E-06	0.02	1.03E-06	9.34E-03	1.19E-06	0.01	8.41E-07	
Benzene	71-43-2	170	4.5	2.74E-03	2.34E-05	2.90E-03	2.35E-05	3.47E-03	1.54E-05	4.19E-03	3.06E-05	3.14E-03	2.65E-05	
Toluene	108-88-3	3,470	1,200	1.51E-03	1.28E-05	1.59E-03	1.29E-05	1.91E-03	8.47E-06	2.30E-03	1.68E-05	1.73E-03	1.45E-05	
p-Xylene	106-42-3	250	180	5.63E-04	4.80E-06	5.95E-04	4.82E-06	7.13E-04	3.16E-06	8.61E-04	6.28E-06	6.45E-04	5.43E-06	
Isobutane	75-28-5	23000	7200	3.49	7.31E-05	3.54	6.64E-05	2.76	4.71E-05	3.44	4.24E-05	2.69	5.04E-05	
n-Butane	106-97-8	66000	7200	3.01	5.54E-05	3.07	5.12E-05	2.28	3.49E-05	2.98	3.25E-05	2.25	4.23E-05	
Isopentane	78-78-4	3800	7100	0.08	5.17E-06	0.08	4.30E-06	0.11	3.70E-06	0.08	2.85E-06	0.09	1.71E-06	
n-Pentane	109-66-0	4100	7100	0.02	1.61E-06	0.02	1.32E-06	0.03	1.17E-06	0.02	8.79E-07	0.02	4.50E-07	

* Based on dispersion modeling performed in July 2013.

UTM Coordinates (meters) NAD 83

ESL values obtained from TCEQ ESL list dated February 1, 2013, which were the ESL values in place at the time FLNG's applications were reviewed.

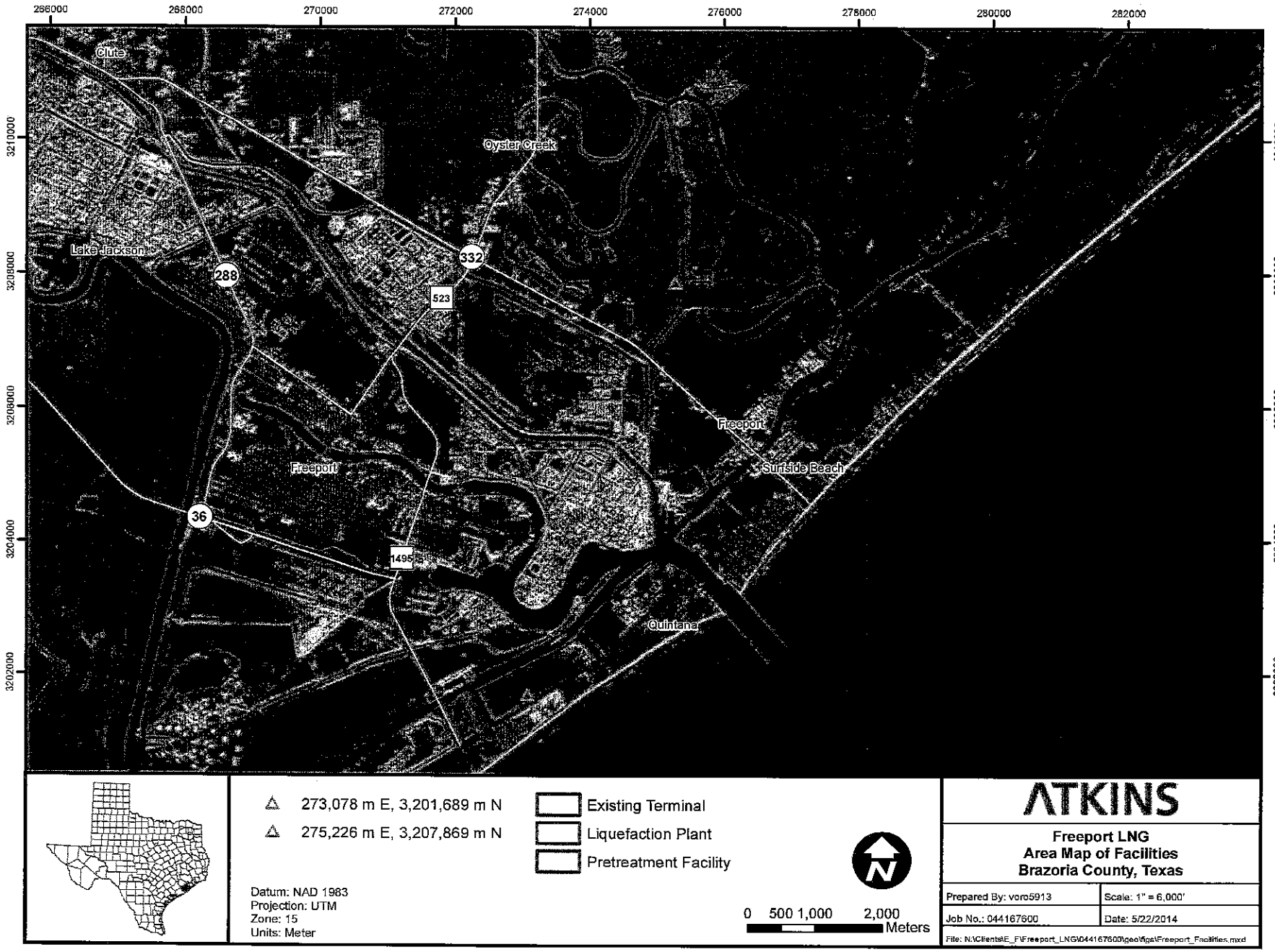
266000
268000
270000
272000
274000
276000
278000
280000
282000
3210000
3208000
3206000
3204000
3202000
Clute
Oyster Creek
Lake Jackson
288
332
523
Freeport
Surfside Beach
36
1495
Quintana
273,078 m E, 3,201,689 m N
275,226 m E, 3,207,869 m N
Existing Terminal
Liquefaction Plant
Pretreatment Facility
Datum: NAD 1983
Projection: UTM
Zone: 15
Units: Meter
0 500 1,000 2,000
Meters
ATKINS
Freeport LNG
Area Map of Facilities
Brazoria County, Texas
Prepared By: voro5913
Scale: 1" = 6,000'
Job No.: 044167600
Date: 5/22/2014
File: N:\Clients\E_F\Freeport_LNG\044167600\geo\figs\Freeport_Facilities.mxd

Exhibit 1-C

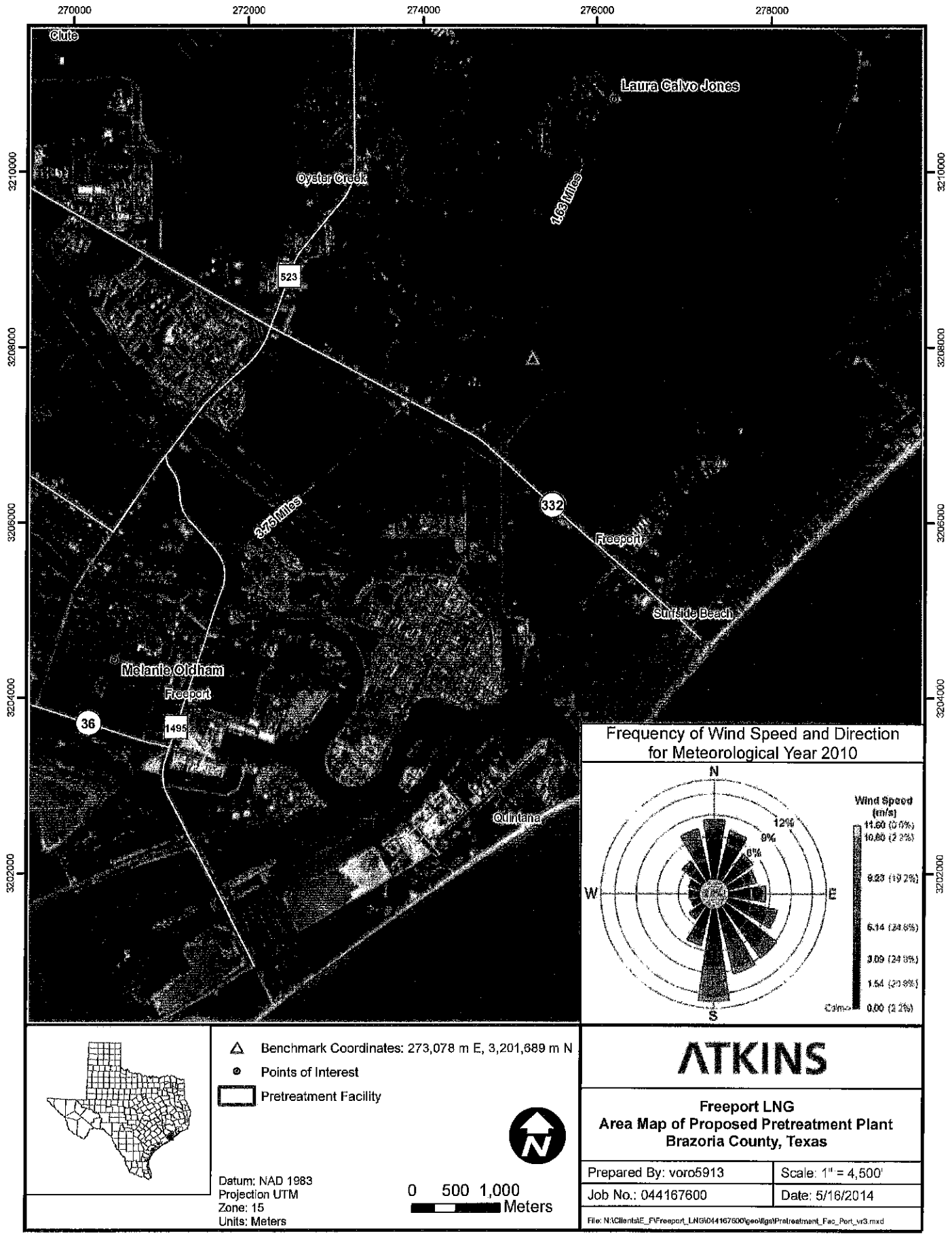
270000
272000
274000
276000
278000
3210000
3208000
3206000
3204000
3202000
Clute
Laura Galvo Jones
Oyster Creek
1.63 Miles
523
3.75 Miles
332
Freeport
Surfside Beach
Melanie Oldham
Freeport
36
1495
Quintana
Frequency of Wind Speed and Direction
for Meteorological Year 2010
N
E
S
W
12%
9%
6%
Wind Speed
(m/s)
11.60 (0.0%)
10.80 (2.2%)
9.23 (19.2%)
6.14 (24.6%)
3.09 (24.8%)
1.54 (20.9%)
0.00 (2.2%)
Calm
Benchmark Coordinates: 273,078 m E, 3,201,689 m N
Points of Interest
Pretreatment Facility
Datum: NAD 1983
Projection UTM
Zone: 15
Units: Meters
0 500 1,000
Meters
ATKINS
Freeport LNG
Area Map of Proposed Pretreatment Plant
Brazoria County, Texas
Prepared By: voro5913
Scale: 1" = 4,500'
Job No.: 044167600
Date: 5/16/2014
File: N:\Clients\E_F\Freeport_LNG\044167600\geo\figs\Pretreatment_Fac_Port_vr3.mxd

Exhibit 1-D

EXHIBIT 2

TCEQ DOCKET NO. 2014-0692-AIR

APPLICATION BY FREEPORT LNG DEVELOPMENT, L.P., PRETREATMENT FACILITY, FOR AIR QUALITY PERMIT NOS. 104840, PSDTX 1302, AND N170	§ § § § §	**BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

AFFIDAVIT OF DR. THOMAS DYDEK, PhD, DABT, PE

State of Texas §
County of Travis §

Before me, the undersigned Notary Public in and for Travis County Texas, personally appeared THOMAS DYDEK, Ph.D., D.A.B.T., P.E., the affiant, whose identity is known to me. After I administered an oath, affiant testified as follows:

1. My name is Thomas Dydek. I am over 18 years of age, of sound mind, and capable of making this affidavit. The facts in this affidavit are within my personal knowledge and are true and correct.

2. I am a Board Certified Toxicologist as a Diplomat of the American Board of Toxicology (D.A.B.T.) and a Licensed Professional Engineer (P.E.). I have over 30 year's continuous experience in the environmental field as a toxicologist focusing on human health risk assessments and evaluations of the potential for adverse public health effects of exposure to air contaminants. I have a Bachelor's Degree in Mechanical Engineering and a Master's Degree in Environmental Science and Engineering from Rice University in Houston, Texas. My doctoral degree is in Environmental Science and Engineering from the University of North Carolina School of Public Health. I have also done a Post-Doctoral Fellowship in Toxicology in the College of Pharmacy at the University of Texas at Austin.

Board certification in toxicology is similar to that in the medical fields. The American Board of Toxicology is the organization that conducts board certification activities for toxicology in this country. Candidates for certification must demonstrate a high level of education and a sufficient number of years in professional practice to qualify to sit for the Board Certification examination. The examination is a two-day written test that covers all aspects of toxicology. If that examination is passed, the candidate becomes a Diplomate of the American Board of Toxicology, or D.A.B.T. for short. To keep one's certification current, it must be renewed every five years. I became Board-Certified in 1995 and I have been re-certified in 2000, 2005, and 2010. I became a Licensed Professional Engineer in Texas in 1992 and I have kept my P.E. license current since that time.

My chief area of expertise is the evaluation of human health and welfare effects of exposure to environmental pollution. While with the U.S. Fish and Wildlife Service in Albuquerque, New Mexico, I was responsible for control of air, water, and solid waste pollution at agency facilities in an eight-state area. I also worked for the U.S. Environmental Protection Agency in Dallas, Texas as a permit engineer in the National Pollutant Discharge Elimination System (NPDES) program. During my doctoral program, I worked for the EPA in North Carolina in the area of air pollution research and air pollutant exposure studies using human volunteers. After returning to Texas in 1982, I taught several courses in the Environmental Studies Program at St. Edward's University in Austin. I then entered my Post-doctoral program at the University of Texas.

From 1984 to 1991, I was the Senior Staff Toxicologist at the Texas Air Control Board (a predecessor agency to the TCEQ) in Austin. In that job, I performed health and welfare effects evaluations for over 1,000 permit applications. I also reviewed many ambient air and contaminated soil sampling reports to determine the potential for adverse effects on public health. I participated in many Public Meetings and gave extensive expert toxicological testimony at agency Public Hearings.

In 1991, I joined the staff of Jones and Neuse, Inc., an environmental consulting services company in Austin, Texas. In that job, I performed quantitative human health risk assessments for chemical contamination of air, water, and soil. I have owned and operated my own toxicology and engineering consulting firm, Dydek Toxicology Consulting, since 1994. In my current job, I have continued my work on human health risk assessments for air quality permitting and other agency-related programs.

My additional professional activities include active membership in many technical associations and service on various City and State citizen committees in the areas of air quality, toxicology, risk assessment, and solid waste management. I have also served as an Adjunct Professor in the Environmental Health Division of the University of Texas School of Public Health in San Antonio (1987-2000). I have attended more than 130 technical environmental conferences and made presentations at more than 25 of these meetings.

3. I have prepared this Affidavit in support of Applicant Freeport Development L.P.'s ("Freeport LNG") Response to Hearing Requests and Request for Reconsiderations filed in the above identified docket. The opinions I give in this Affidavit were formulated based upon my experience, training and education in the fields of toxicology and engineering, and my review of the following information concerning combined air emissions from Freeport LNG's two proposed plants – the Pretreatment Facility and the Liquefaction Plant - to be located in the Freeport, Texas area (referred to herein as the "Liquefaction Project"): the results of air dispersion modeling performed by Atkins North America, Inc. ("Atkins") that determined maximum possible off-property impacts of air contaminants to be emitted by the proposed Liquefaction Project, and modeling results performed by Atkins demonstrating impacts at the individual Hearing Requestors'

residences[1] Based on my review of this information, and on my expertise and experience as a toxicologist, I have reached the conclusions set forth in this affidavit.

It is my opinion that the Hearing Requestors' requests for a Contested Case Hearing in this matter should be denied. I base this opinion on the following facts:

4. It is one of the basic tenets of toxicology that "the dose makes the poison". In other words, a person's exposure to a potentially toxic chemical will not result in any adverse effects unless that exposure is of sufficient magnitude, duration, and frequency to cause those effects. It is my opinion in this matter that the levels of air contaminants to be emitted from the proposed Freeport LNG Liquefaction Project will not be of a magnitude, duration, or frequency great enough to cause any adverse human health or welfare effects to the Hearing Requestors in this case.

5. There are two major categories of air contaminants of concern in this type of health effects evaluation process: criteria air pollutants and non-criteria air pollutants. Criteria air contaminants are those for which a National Ambient Air Quality Standard (NAAQS) or a Texas Commission on Environmental Quality (TCEQ) Property Line Standard has been set. The NAAQS and the State of Texas standards have been set at levels protective of the health and welfare of even the most sensitive members of the general population with an adequate margin of safety. Sensitive members of the population include the very young, the very old, and people with pre-existing medical conditions such as asthma and other respiratory diseases and diseases of the cardiovascular system.

Non-criteria air pollutants are those that have neither a NAAQS nor a State of Texas air quality standard. While there are no air quality standards for the latter group of air contaminants, the TCEQ has established guideline exposure levels which are used to evaluate the potential for adverse health or welfare effects of exposure to these air contaminants. These guideline levels are called Effects Screening Levels (ESLs). ESLs have been set at levels at or below which no adverse human health or welfare effects are expected.

Health-based ESLs have been set based on human or animal data that show the levels of chemical exposures at which no adverse effects (what's called a no adverse effects level or NOAEL) or very minor adverse effects (a low adverse effects level or LOAEL) occur. These NOAELs or LOAELs are then reduced by safety factors designed to make the data applicable to community exposures to air contaminants. ESLs are very conservative because they have been set at levels typically orders of magnitude smaller than exposure levels that can actually cause adverse health effects.

Welfare-based ESLs are based on prevention of odor nuisance and effects on vegetation. Most welfare-based ESLs have been set to prevent odor nuisances. These ESLs are set at the odor thresholds for chemicals as determined in a laboratory setting. These ESLs are

[1] While the Hearing Requestors in this docket only requested a hearing as to the Pretreatment Facility, I nonetheless am evaluating the impact of the emissions from the project as a whole, which results in a more conservative analysis.

very conservative as well, since the levels at which odors can be detected in the laboratory will be lower than those likely to be detected in a community setting. There are only a few vegetation-based ESLs (for hydrogen fluoride, other fluorides, and ethylene). These ESLs have been set at levels at which minor damage to plant species has been found.

6. The proposed Freeport LNG Liquefaction Project will emit five air contaminants that have NAAQS: carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The proposed Project will also emit three air contaminants that have State of Texas standards: sulfur dioxide, hydrogen sulfide, and sulfuric acid mist. Non-criteria air contaminants to be emitted from the proposed Project include ammonia and various volatile organic compounds (VOCs).

7. The health effects evaluation procedure used in Texas in air quality permitting matters is to first predict the expected off-property airborne levels of air contaminants to be emitted from an industrial source and then to compare those predicted levels to the air quality standards and guidelines mentioned above. If predicted levels do not exceed health- and welfare-based standards and guidelines, no adverse effects will occur. This is a well-recognized, accepted, and scientifically reliable method of evaluating the human health and welfare risks (if any) of chemicals emitted into the air. As an independent toxicologist, I agree that this is the best way to evaluate the potential for adverse effects from air contaminant emissions in air quality permitting situations.

8. Since the TCEQ air quality permits are "pre-construction" permits, computer-based methods are used to predict the impacts of emissions that will occur after the plants are built. This type of computer modeling is referred to as air dispersion modeling. Air dispersion modeling is a well-accepted and almost universally used method by which off-property air concentrations of chemicals emitted from emission sources are predicted. The model used in Texas is called AERMOD. This model was developed and tested by the U.S. Environmental Protection Agency and is used by permit applicants seeking air quality permits from the TCEQ.

Atkins has performed air dispersion modeling on behalf of the Applicant to determine the maximum possible off-property impacts (i.e. airborne concentrations) of the air contaminants to be emitted from the proposed Freeport LNG Liquefaction Project. It is common and accepted practice to rely on the results of such modeling when performing human health effects evaluations. I relied on those modeling results in the preparation of this Affidavit. That modeling showed that the maximum impacts of all air contaminants anywhere off of the FLNG property would meet all applicable federal and state guidelines.[2] In addition, I relied upon modeling results determining impacts at the individual Hearing Requestors' residences, performed by Atkins.[3] It is also common and accepted practice to rely on the results of such modeling when performing human health

[2] *See* Affidavit of Ruben Velasquez, P.E., Atkins.

[3] *See* Affidavit of Ruben Velasquez, P.E., Atkins; *see also* Exhibit 2-A, which is a true and correct copy of modeling results provided to me by Atkins.

effects evaluations. The TCEQ Air Dispersion Modeling Team has reviewed and approved the modeling submitted by the Applicant for this project.[4] To analyze potential impacts at individual Hearing Requestor's residences, the grid points closest to each residence were located and the predicted values modeled for those points were determined. The differences between the impacts at the residences and at the closest point to those residences in the model grid are insignificant.

Tables 1a and 1b show the maximum predicted impacts at the locations of the residences of the two Hearing Requestors for air contaminants having NAAQS, the NAAQS levels, and the percentage of the NAAQS represented by those maximum levels.

Tables 2a and 2b show the maximum predicted impacts at the locations of the residences of the two Hearing Requestors of air contaminants having Texas Property Line Standards, the level of those standards, and the percentage of the Texas Standard represented by those maximum levels.

Tables 3a and 3b show the maximum predicted impacts at the locations of the residences of the two Hearing Requestors for air contaminants having Effects Screening Levels, the value of those ESLs, and the percentage of the ESLs represented by those maximum levels.

The airborne concentrations predicted by the Applicant's air dispersion modeling are conservative; that is, they likely over-predict the levels of air contaminants that could actually occur in the vicinity of the proposed Freeport LNG Pretreatment Facility and/or at the residences of the Hearing Requestors. For example, it was assumed that the maximum emissions would occur during the hours in which meteorological conditions least favor the dispersion of those air contaminants.

The following Tables 1a and 1b show the maximum predicted impacts of air contaminants at the Requestors' residences ranged from 0.01% to 1.4% of the applicable National Ambient Air Quality Standards. Another way to express this is that the predicted impacts were from 70 to 10,000 times lower than the NAAQS.

The following Tables 2a and 2b show the maximum predicted impacts at the residences ranged from 0.07% to 0.22% of the State of Texas Property Line Standards. In other words, the impacts at the Requestors' residences were from 450 to 1,400 times lower than those standards.

The following Tables 3a and 3b show the maximum predicted impacts at the residences for chemicals having ESLs ranged from 0.00000001% to 1.6% of the ESLs for those chemicals. Put another way, these impacts were from 62 to 1.0 billion times lower than the applicable ESLs.

[4] TCEQ Air Quality Analysis Audit Memo for this project, dated November 20, 2013.

Table 1a. Comparison of Maximum Predicted Air Contaminant Levels* at the Melanie Oldham Residence to National Ambient Air Quality Standards (NAAQS)

Air Contaminant	Averaging Time	NAAQS level ($\mu g/m^3$)	Maximum Predicted Level at the Melanie Oldham Residence ($\mu g/m^3$)	Percentage of the NAAQS
Carbon monoxide	1 hour	40,000	68.89	0.17%
Carbon monoxide	8 hours	10,000	21.14	0.21%
Nitrogen dioxide	1 hour	188	0.81	0.43%
Nitrogen dioxide	Annual	100	0.01	0.01%
Sulfur dioxide	1 hour	196	1.05	0.54%
Sulfur dioxide	3 hours	1,300	0.50	0.04%
Sulfur dioxide	24 hours	365	0.07	0.02%
Sulfur dioxide	Annual	80	0.01	0.01%
PM_{10}	24 hours	150	0.21	0.14%
PM_{10}	Annual	None	0.02	n/a
$PM_{2.5}$	24 hours	35	0.21	0.60%
$PM_{2.5}$	Annual	12	0.02	0.17%

* For emissions from the Pretreatment Facility and the Liquefaction Plant

Table 1b. Comparison of Maximum Predicted Air Contaminant Levels* at the Laura Jones Residence to National Ambient Air Quality Standards (NAAQS)

Air Contaminant	Averaging Time	NAAQS level ($\mu g/m^3$)	Maximum Predicted Level at the Laura Jones Residence ($\mu g/m^3$)	Percentage of the NAAQS
Carbon monoxide	1 hour	40,000	66.10	0.17%
Carbon monoxide	8 hours	10,000	24.35	0.24%
Nitrogen dioxide	1 hour	188	0.85	0.45%
Nitrogen dioxide	Annual	100	0.01	0.01%
Sulfur dioxide	1 hour	196	1.20	0.61%
Sulfur dioxide	3 hours	1,300	1.00	0.08%
Sulfur dioxide	24 hours	365	0.27	0.07%
Sulfur dioxide	Annual	80	0.01	0.01%
PM_{10}	24 hours	150	0.50	0.33%
PM_{10}	Annual	None	0.03	n/a
$PM_{2.5}$	24 hours	35	0.50	1.4%
$PM_{2.5}$	Annual	12	0.03	0.25%

* For emissions from the Pretreatment Facility and the Liquefaction Plant

Table 2a. Comparison of Maximum Predicted Air Contaminant Levels* at the Melanie Oldham Residence to State of Texas Property Line Standards for Criteria Pollutants

Air Contaminant	Averaging Time	Texas Property Line Standard ($\mu g/m^3$)	Maximum Predicted Level at the Melanie Oldham Residence ($\mu g/m^3$)	Percentage of the Standard
Hydrogen sulfide	30 minutes	108	0.21	0.19%
Sulfur dioxide	30 minutes	1,021	1.05	0.10%
Sulfuric acid mist	1 hour	50	0.08	0.16%
Sulfuric acid mist	24 hours	15	0.01	0.07%

* For emissions from the Pretreatment Facility and the Liquefaction Plant

Table 2b. Comparison of Maximum Predicted Air Contaminant Levels* at the Laura Jones Residence to State of Texas Property Line Standards for Criteria Pollutants

Air Contaminant	Averaging Time	Texas Property Line Standard ($\mu g/m^3$)	Maximum Predicted Level at the Laura Jones Residence ($\mu g/m^3$)	Percentage of the Standard
Hydrogen sulfide	30 minutes	108	0.24	0.22%
Sulfur dioxide	30 minutes	1,021	1.20	0.12%
Sulfuric acid mist	1 hour	50	0.09	0.18%
Sulfuric acid mist	24 hours	15	0.02	0.13%

* For emissions from the Pretreatment Facility and the Liquefaction Plant

Table 3a. Comparison of Maximum Predicted Air Contaminant Levels* at the Melanie Oldham Residence to Effects Screening Levels (ESLs) for Non-Criteria Pollutants

Air Contaminant	Averaging Time	Effects Screening Level ($\mu g/m^3$)	Maximum Predicted Level at the Melanie Oldham Residence ($\mu g/m^3$)	Percentage of the ESL
Ammonia	1 hour	170	2.47	1.5%
Ammonia	Annual	17	9.09×10^{-3}	0.05%
Benzene	1 hour	170	3.47×10^{-3}	0.002%
Benzene	Annual	4.5	1.54×10^{-5}	0.0003%
Butane, n-	1 hour	66,000	2.28	0.003%
Butane, n-	Annual	7,200	3.49×10^{-5}	0.0000005%
Hexane, n-	1 hour	5,300	0.02	0.0004%
Hexane, n-	annual	200	1.03×10^{-6}	0.0000005%
Isobutane	1 hour	23,000	2.76	0.01%
Isobutane	Annual	7,200	4.71×10^{-5}	0.0000007%
Isopentane	1 hour	3,800	0.11	0.003%
Isopentane	Annual	7,100	3.70×10^{-6}	0.00000005%
Pentane, n-	1 hour	4,100	0.03	0.0007%
Pentane, n-	Annual	7,100	1.17×10^{-6}	0.00000002%
Toluene	1 hour	3,470	1.91×10^{-3}	0.00006%
Toluene	Annual	1,200	8.47×10^{-6}	0.0000007%
Xylene, p-	1 hour	250	7.13×10^{-4}	0.0003%
Xylene, p-	Annual	180	3.16×10^{-6}	0.000002%

* For emissions from the Pretreatment Facility and the Liquefaction Plant

Table 3b. Comparison of Maximum Predicted Air Contaminant Levels* at the Laura Jones Residence to Effects Screening Levels (ESLs) for Non-Criteria Pollutants

Air Contaminant	Averaging Time	Effects Screening Level ($\mu g/m^3$)	Maximum Predicted Level at the Laura Jones Residence ($\mu g/m^3$)	Percentage of the ESL
Ammonia	1 hour	170	2.76	1.6%
Ammonia	Annual	17	0.01	0.06%
Benzene	1 hour	170	4.19×10^{-3}	0.002%
Benzene	Annual	4.5	3.06×10^{-5}	0.0007%
Butane, n-	1 hour	66,000	2.98	0.005%
Butane, n-	Annual	7,200	3.25×10^{-5}	0.0000005%
Hexane, n-	1 hour	5,300	9.34×10^{-3}	0.0002%
Hexane, n-	annual	200	1.19×10^{-6}	0.0000006%
Isobutane	1 hour	23,000	3.44	0.01%
Isobutane	Annual	7,200	4.24×10^{-5}	0.0000006%
Isopentane	1 hour	3,800	0.08	0.002%
Isopentane	Annual	7,100	2.85×10^{-6}	0.00000004%
Pentane, n-	1 hour	4,100	0.02	0.0005%
Pentane, n-	Annual	7,100	8.79×10^{-7}	0.00000001%
Toluene	1 hour	3,470	2.30×10^{-3}	0.00007%
Toluene	Annual	1,200	1.68×10^{-5}	0.000001%
Xylene, p-	1 hour	250	8.61×10^{-4}	0.0003%
Xylene, p-	Annual	180	6.28×10^{-6}	0.000003%

* For emissions from the Pretreatment Facility and the Liquefaction Plant

9. In conclusion, the maximum levels of all air contaminants to be emitted from the proposed Freeport LNG Pretreatment Facility in Freeport, Texas have been determined by air dispersion modeling. The predicted maximum impacts at both the Hearing Requestors' residences are small percentages of all Federal and State of Texas standards and guidelines, even when the emissions impacts from the proposed Freeport LNG Liquefaction Plant are included, and even considering the conservative assumptions that went into the dispersion modeling as mentioned above.

Those air quality standards and guidelines have been set at levels low enough to protect even the most sensitive members of the general population, including the very young, the very old, and people with pre-existing medical conditions such as asthma and other respiratory diseases and diseases of the cardiovascular system.

Going back to the very first point I made in this Affidavit, the maximum levels of air contaminants emitted from the proposed Liquefaction Project at the Hearing Requestors' residences (the "dose") are not great enough to cause any adverse effects (the "poison").

Because of these extra layers of conservatism, it is even more apparent that the Hearing Requestors will not be affected in any way by the emissions from the proposed Freeport LNG Pretreatment Facility. It is therefore my sworn opinion there is no need to have a Contested Case Hearing for this matter.

Thomas Dydek

Thomas Dydek, PhD, DABT, PE

Sworn and subscribed before me by Thomas Dydek on June 4, 2014.

Pamela Jo Mitchell

PAMELA JO MITCHELL
NOTARY PUBLIC
State of Texas
Comm. Exp. 10-22-2014

Notary Public in and for the State of Texas

My commission expires: 10/22/14

Class II SIL Results: Combined Modeling Impacts

					Harold Doty		Christopher Kali		Melanie Oldham		Laura Calvo Jones		James Kall		
					X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	
					272427.0527	3201016.859	272335.9817	3201341.072	270482.876	3204427.245	276199.4793	3210817.56	275253.2671	3203023.83	Residence Coordinates
Pollutant	Averaging Period	Year	SILs ($\mu g/m^3$)	NAAQS ($\mu g/m3$)	272,432	3,201,026	272,332	3,201,351	270,438	3,204,476	276,438	3,210,976	275,257	3,203,026	Closest Modeled Receptor Coodinates
PM_{10}	24-hour	MAX of 2006-2010	5	150	0.36		0.31		0.21		0.50		0.44		
	Annual	2006	1	none	0.02		0.02		0.01		0.02		0.03		
		2007			0.02		0.02		0.02		0.02		0.03		
		2008			0.02		0.02		0.01		0.03		0.03		
		2009			0.02		0.02		0.02		0.03		0.03		
		2010			0.02		0.02		0.02		0.02		0.02		
$PM_{2.5}$	24-hour	2006-2010	1.2	35	0.24		0.24		0.18		0.36		0.33		
		MAX of 2006-2010	1.2	35	0.36		0.31		0.21		0.50		0.44		
	Annual	2006-2010	0.3	12	0.02		0.02		0.02		0.02		0.03		
		2006	0.3	12	0.02		0.02		0.01		0.02		0.03		
		2007			0.02		0.02		0.02		0.02		0.03		
		2008			0.02		0.02		0.01		0.03		0.03		
		2009			0.02		0.02		0.02		0.03		0.03		
		2010			0.02		0.02		0.02		0.02		0.02		
NO_2	ARM 1-hour	2006-2010	7.5	188	0.85		0.89		0.81		0.85		0.72		
	ARM Annual	2006	1	100	0.02		0.02		0.01		0.01		0.02		
		2007			0.02		0.02		0.01		0.01		0.02		
		2008			0.02		0.02		0.01		0.01		0.02		
		2009			0.02		0.02		0.01		0.01		0.02		
		2010			0.02		0.02		0.01		0.01		0.02		
CO	1-hour	2008	2,000	40,000	61.08		64.97		68.89		56.10		60.69		
	8-hour	2008	500	10,000	18.86		33.18		21.14		24.35		26.18		
SO_2	1-hour	2008	7.8	196	0.97		1.06		1.05		1.20		0.94		
	3-hour	2008	25	1300	0.41		0.52		0.50		1.00		0.41		
	24-hour	2008	5	365	0.11		0.15		0.07		0.27		0.15		
	Annual	2008	1	80	0.01		0.01		0.01		0.01		0.01		

* Based on dispersion modeling performed in July 2013.
UTM Coordinates (meters) NAD 83

State Property Line Analysis Results: Combined Modeling Impacts

				Harold Doty		Christopher Kali		Melanie Oldham		Laura Calvo Jones		James Kali		
				X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	
	Averaging		Standard	272427.05	3201016.859	272335.98	3201341.072	270482.88	3204427.245	276199.48	3210817.56	275253.27	3203023.83	Residence Coordinates
Pollutant	Period	Year	($\mu g/m^3$)	272,432	3,201,026	272,332	3,201,351	270,438	3,204,476	276,438	3,210,976	275,257	3,203,026	Closest Modeled Receptor Coodinates
SO_2	30-min	2008	1021	0.97		1.06		1.05		1.20		0.94		
H_2S	30-min	2008	108	0.17		0.17		0.21		0.24		0.18		
H_2SO_4	1 hour	2008	50	0.07		0.08		0.08		0.09		0.07		
	24 hour	2008	15	0.01		0.01		0.01		0.02		0.01		

* Based on dispersion modeling performed in July 2013.
UTM Coordinates (meters) NAD 83

State Health Effects Evaluation (ESL Analysis): Combined Modeling Impacts

Constituents	CAS	TCEQ ESL		Harold Doty		Christopher Kall		Melanie Oldham		Laura Calvo Jones		James Kall	
				X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing
				272427.0527	3201016.859	272335.98	3201341.072	270482.88	3204427.245	276199.48	3210817.6	275253.27	3203023.83
		[ST]	[LT]	272432	3201026	272332	3201351	270438	3204476	276438	3210976	275257	3203026
		$\mu g/m^3$	$\mu g/m^3$	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3
Ammonia	7664-41-7	170	17	1.06	0.01	1.20	0.01	2.47	9.09E-03	2.76	0.01	3.43	0.02
n-Hexane	110-54-3	5,300	200	9.94E-03	1.47E-06	8.75E-03	1.30E-06	0.02	1.03E-06	9.34E-03	1.19E-06	0.01	8.41E-07
Benzene	71-43-2	170	4.5	2.74E-03	2.34E-05	2.90E-03	2.35E-05	3.47E-03	1.54E-05	4.19E-03	3.06E-05	3.14E-03	2.65E-05
Toluene	108-88-3	3,470	1,200	1.51E-03	1.28E-05	1.59E-03	1.29E-05	1.91E-03	8.47E-06	2.30E-03	1.68E-05	1.73E-03	1.45E-05
p-Xylene	106-42-3	250	180	5.63E-04	4.80E-06 *	5.95E-04	4.82E-06	7.13E-04	3.16E-06	8.61E-04	6.28E-06	6.45E-04	5.43E-06
Isobutane	75-28-5	23000	7200	3.49	7.31E-05	3.54	6.64E-05	2.76	4.71E-05	3.44	4.24E-05	2.69	5.04E-05
n-Butane	106-97-8	66000	7200	3.01	5.54E-05	3.07	5.12E-05	2.28	3.49E-05	2.98	3.25E-05	2.25	4.23E-05
Isopentane	78-78-4	3800	7100	0.08	5.17E-06	0.08	4.30E-06	0.11	3.70E-06	0.08	2.85E-06	0.09	1.71E-06
n-Pentane	109-66-0	4100	7100	0.02	1.61E-06	0.02	1.32E-06	0.03	1.17E-06	0.02	8.79E-07	0.02	4.50E-07

Resident Coordinates

Closest Modeled Receptor Coodinates

* Based on dispersion modeling performed in July 2013.

UTM Coordinates (meters) NAD 83

ESL values obtained from TCEQ ESL list dated February 1, 2013, which were the ESL values in place at the time FLNG's applications were reviewed.

State Health Effects Evaluation (ESL Analysis): Combined Modeling Impacts

Constituents	CAS	TCEQ ESL		Harold Doty		Christopher Kall		Melanie Oldham		Laura Calvo Jones		James Kall		
				X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	X_Easting	Y_Northing	
				272427.0527	3201016.859	272335.98	3201341.072	270482.88	3204427.245	276199.48	3210817.6	275253.27	3203023.83	Resident Coordinates
		[ST]	[LT]	272432	3201026	272332	3201351	270438	3204476	276438	3210976	275257	3203026	Closest Modeled Receptor Coodinates
		µg/m³	µg/m³	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	ST µg/m3	LT µg/m3	
Ammonia	7664-41-7	170	17	1.06	0.01	1.20	0.01	2.47	9.09E-03	2.76	0.01	3.43	0.02	
n-Hexane	110-54-3	5,300	200	9.94E-03	1.47E-06	8.75E-03	1.30E-06	0.02	1.03E-06	9.34E-03	1.19E-06	0.01	8.41E-07	
Benzene	71-43-2	170	4.5	2.74E-03	2.34E-05	2.90E-03	2.35E-05	3.47E-03	1.54E-05	4.19E-03	3.06E-05	3.14E-03	2.65E-05	
Toluene	108-88-3	3,470	1,200	1.51E-03	1.28E-05	1.59E-03	1.29E-05	1.91E-03	8.47E-06	2.30E-03	1.68E-05	1.73E-03	1.45E-05	
p-Xylene	106-42-3	250	180	5.63E-04	4.80E-06 *	5.95E-04	4.82E-06	7.13E-04	3.16E-06	8.61E-04	6.28E-06	6.45E-04	5.43E-06	
Isobutane	75-28-5	23000	7200	3.49	7.31E-05	3.54	6.64E-05	2.76	4.71E-05	3.44	4.24E-05	2.69	5.04E-05	
n-Butane	106-97-8	66000	7200	3.01	5.54E-05	3.07	5.12E-05	2.28	3.49E-05	2.98	3.25E-05	2.25	4.23E-05	
Isopentane	78-78-4	3800	7100	0.08	5.17E-06	0.08	4.30E-06	0.11	3.70E-06	0.08	2.85E-06	0.09	1.71E-06	
n-Pentane	109-66-0	4100	7100	0.02	1.61E-06	0.02	1.32E-06	0.03	1.17E-06	0.02	8.79E-07	0.02	4.50E-07	

* Based on dispersion modeling performed in July 2013.

UTM Coordinates (meters) NAD 83

ESL values obtained from TCEQ ESL list dated February 1, 2013, which were the ESL values in place at the time FLNG's applications were reviewed.

EXHIBIT 3

ANALYSIS OF WHETHER ANY ISSUES RAISED BY THE HEARING REQUESTORS ON THE PRETREATMENT FACILITY CONSTITUTE RELEVANT AND MATERIAL DISPUTED ISSUES OF FACT

In this Exhibit 3, FLNG discusses the issues raised in the hearing requests filed by Diana Stokes, Melanie Oldham, and Laura Jones concerning FLNG's Pretreatment Facility permit application. FLNG's Response to Hearing Requests and Request for Reconsideration demonstrates that no person or group is entitled to a contested case hearing on FLNG's Pretreatment Facility permit application. However, 30 Tex. Admin. Code § 55.209(e)(6) provides that a response to hearing request should address whether issues raised in hearing requests are relevant and material to the decision on the application. Accordingly, FLNG provides the following discussion in this Exhibit 3 of the relevance, or lack thereof, of issues raised by Ms. Stokes, Ms. Oldham, and Ms. Jones. We emphasize that we believe that none of the hearing requestors is entitled to a hearing on the Pretreatment Facility permit, and that we are including this discussion in the alternative, should the Commission find that any requestor is entitled to a hearing.

A. Applicable Legal Analysis

The Commission may not refer an issue to SOAH for a contested case hearing unless the Commission determines that the issue 1) involves a disputed question of fact, 2) was raised during the public comment period, and 3) is relevant and material to the decision on the application.[1] When referring a case to SOAH involving an application to be issued under the

[1] 30 TEX. ADMIN. CODE § 50.115(c).

Texas Clean Air Act, the Commission may specify the number and scope of the specific factual issues to be referred.[2]

For an issue to be relevant in a proceeding before the Commission, the issue must 1) involve a disputed question of fact and 2) be relevant and material to the application.[3] Information concerning an issue raised by a requestor is relevant if the information would have some effect upon the Commission's decision, if the information is true. Issues outside of the Commission's statutory or regulatory authority are not relevant to the proceeding. For the Commission to issue an air quality permit, the Application must comply with all applicable statutory and regulatory requirements.[4] The Commission may not consider requirements not specifically enumerated by applicable statutes, rules or regulations.[5]

B. Issues that are not relevant to TCEQ's review of the Pretreatment Facility permit application.

In the present case, the hearing requestors have raised numerous issues that are not relevant to the Commission's review of the Pretreatment Facility permit application. Those issues, and FLNG's response thereto, are set forth below.

1. There are not enough air quality monitors in the nearby vicinity, and no monitors with alarms. (Stokes, Oldham, Jones)

FLNG Response: Ambient air quality monitoring is not a requirement of air quality permitting. Generally, the decision to install ambient air monitoring is to address a regional or area-wide concern about air quality. In addition, ambient air monitoring will measure the quality

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[2] *Id.* § 55.211(b)(3)(A)(i).

[3] *Id.* § 50.115(c).

[4] *See generally* TEX. HEALTH & SAFETY CODE §§ 382.001 *et seq.*

[5] *See Starr County v. Starr Indus. Servs. Inc.*, 584 S.W.2d 352, 356 (Tex. Civ. App.—Austin 1979, writ ref'd n.r.e.); *see also* TEX. GOVT. CODE § 2001.004.

of the air generally and cannot determine the individual impact of the Pretreatment Facility's emissions on the general air quality of the area. Facility location and the siting of air quality monitors are outside of TCEQ's purview in the air quality permitting context, as the Executive Director has made clear in Response to Comments document filed in this matter on April 4, 2014. *See* Executive Director's Response to Public Comment, *Application by Freeport LNG Development, L.P.* ("Executive Director's Response to Public Comment") at 14, 18. Similarly, requirements relating to automatic alarm systems are also beyond the purview of TCEQ review in the context of air permitting.

2. The Pretreatment Facility's emissions will add to pollution in Brazoria County, which is "already declared to be the smoggiest in the eight county Houston region." (Stokes)

FLNG response: The facility site is in the Houston-Galveston-Brazoria ozone nonattainment area. Emissions of NOx and VOCs contribute to the formation of ozone, *i.e.* smog. However, emissions of NOx from this facility will be only 51.8 tpy and VOC emissions will be 18 tpy – each amount below Permit by Rule levels. In addition, FLNG will fully offset its NOx emissions from this entire project in a ratio of 1:1.3 and its VOC emissions are below the threshold necessary to offset with emission reduction credits. Therefore, the Pretreatment Facility will not have an impact on the nonattainment status of the area.

3. The Pretreatment Facility will cause light and noise pollution. (Stokes, Jones)

FLNG Response: These issues are outside the purview of the TCEQ air quality permitting process. *See* Executive Director's Response to Public Comment at 18. TCEQ has no jurisdiction over the siting of facilities or local land use issues, therefore, these two issues are not

relevant and material to the application and should not be the basis for determining whether Ms. Stokes is affected nor be an issue that is the basis for a referral to hearing.

4. Emissions will be created during facility construction due to "thousands of dump truck loads of dirt … and the dust this creates." (Stokes)

FLNG response: Review of a permit application for a stationary source takes into account emissions that will be created due to the operation of the contemplated facility, not emissions that will be created during its construction, nor emissions from mobile sources. *See* Executive Director's Response to Public Comment at 18 (stating that TCEQ lacks jurisdiction to consider additional traffic when assessing an air permit application).

5. There will be safety risks from a natural gas pipeline that will serve the facility and from the facility itself. (Stokes, Jones)

FLNG Response: Pipeline safety issues are outside the scope of TCEQ's review of an application for an air quality permit. *See* Executive Director's Response to Public Comment at 18 (stating that the law governing air permits deals specifically with air-related issues, not other issues such as fire control, contingency plans, or emergency communication plans).

6. There will be emissions and dust from construction vehicles. (Jones)

FLNG Response: Review of a permit application for a stationary source takes into account emissions that will be created due to the operation of the contemplated facility, not emissions that will be created during its construction, nor emissions from mobile sources. *See* Executive Director's Response to Public Comment at 18 (stating that TCEQ lacks jurisdiction to consider additional traffic when assessing an air permit application).

7. There will be increased loads on power grids due to construction workers living in the area. (Jones)

FLNG Response: Electric power loads and demands are not relevant to TCEQ's decision on whether to issue an air quality permit. *See* Executive Director's Response to Public Comment at 18 (stating that the law governing air permits deals specifically with air-related issues).

8. The facility will pose a threat to groundwater in the area. (Jones)

FLNG Response: TCEQ's review of an air quality permit application does not take into account issues relating to groundwater. *See* Executive Director's Response to Public Comment at 18 (stating that the law governing air permits deals specifically with air-related issues and TCEQ's application review does not include assessment of water or water quality issues).

9. The proposed facility will have a negative socio-economic impact. (Jones)

FLNG Response: Societal or economic impacts of proposed facilities are outside the scope of the issues that are relevant to TCEQ's review of an air quality permit application. *See* Executive Director's Response to Public Comment at 18, 20 (stating that TCEQ's review of an air permit application deals specifically with air-related issues, and TCEQ may not consider impact on the economy).

10. The facility will export resources that are needed in the United States. (Jones)

FLNG Response: Permission to export (and the effect of exporting LNG on the United States) is a federal issue which has been thoroughly studied by the Department of Energy as well as numerous public interest groups and private companies. Such an issue is not germane to TCEQ's review of an air quality permit application. *See* Executive Director's Response to Public Comment at 18 (stating that TCEQ's review of an air permit application deals specifically with air-related issues).

Only relevant and material disputed issues of fact may be referred to SOAH for a contested case hearing. *See* 30 Tex. Admin. Code § 50.115(c) (stating that TCEQ may not refer an issue for contested case hearing unless *inter alia* it is relevant and material to the decision on the application). The issues set forth above, raised by Ms. Stokes, Ms. Oldham, and Ms. Jones, are not relevant to TCEQ's permitting decision, and as such those issues may not form the basis for referral to SOAH.

C. Issues that may constitute relevant and disputed issues of fact.

TCEQ rules also require responses to hearing requests to address which issues raised in the hearing requests are disputed. 30 Tex. Admin. Code § 55.209(e)(2). Ms. Jones has raised certain issues that might be deemed relevant and material to the application and could be found to be disputed issues of fact. Those issues are:

1. Whether air emissions from the facility will adversely affect public health.
2. Whether emissions from the facility will have an impact on wildlife or vegetation.
3. Whether BACT review should require technology that is "environmentally feasible" rather than technology that is economically feasible.

We emphasize again that neither Ms. Jones, nor any of the other hearing requestors, is entitled to a hearing on the Pretreatment Facility permit, and that we are including this discussion in the alternative, should the Commission find that any requestor is entitled to a hearing.

AFFP

Exhibit 4

Affidavit of Publication

STATE OF TEXAS }
COUNTY OF BRAZORIA } SS

Cindy Cornette, being duly sworn, says:

That he is Advertising Director of the The Facts, a daily newspaper of general circulation, printed and published in Clute, Brazoria County, Texas; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following dates:

April 22, 2012

That said newspaper was regularly issued and circulated on those dates.
SIGNED:

Cindy Cornette
Advertising Director

Subscribed to and sworn to me this 22nd day of May 2014.

Alexi Meredith Self, Notary, Brazoria County, Texas

My commission expires: August 24, 2015

THANK YOU FREEPORT LNG

The members of Save Our Subdivisions (SOS) wish to thank Freeport LNG for listening to the environmental and safety concerns of the Quintana/Oyster Creek communities. Relocating the Pretreatment facility demonstrates corporate and social awareness.

SOS would also like to thank the many people, too many to mention herein, who provided us with guidance and support. We especially want to give a big SOS THANK YOU to the following individuals and groups:

Donald "Bubba" Payne, County Commissioner, Precinct 1

Tom Reid, US Representative 2 Deputy District Director, Diana Ki

Dennis Bonnen, State Representative

Joan Huffman, State Senator

Mrs. Sharon Stewart

Brandi Mannchen

Kelt Carman

Jan and Roy Edwards

US Fish and Wildlife Service

S.O.S. Residents and Members

Respectfully,

The Members of SOS

www.saveoursubdivisions.org

AFFP

Exhibit 5

Affidavit of Publication

STATE OF TEXAS }
COUNTY OF BRAZORIA } SS

Cindy Cornette, being duly sworn, says:

That he is Advertising Director of the The Facts, a daily newspaper of general circulation, printed and published in Clute, Brazoria County, Texas; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following dates:

April 18, 2012

That said newspaper was regularly issued and circulated on those dates.
SIGNED:

Cindy Cornette
Advertising Director

Subscribed to and sworn to me this 22nd day of May 2014.

Alexi Meredith Self, Notary, Brazoria County, Texas

My commission expires: August 24, 2015

Hide-A-Way residents, Freeport LNG officials both winners

Residents of Hide-A-Way on the Gulf are thrilled with the location change for Freeport LNG's new pretreatment plant, and they should be.

After months of strong opposition to the CR792 site originally being considered, the company has entered into an option to purchase about 400 acres about a mile southeast of Oyster Creek, near the corner of Levee Road and Highway 332.

Though it can be argued the entire area is industrialized, this spot just a few miles away from the originally proposed site is easily more suited for the type of development Freeport LNG has planned.

OUR VIEWPOINT

Our Viewpoint reflects the majority opinion of the editorial board. The Facts editorial board includes: Bill Cornwell, Yvonne Mintz, Michael Morris, Dale Dimitri, Glenn Krampota and Glenn Blount.

The pretreatment facility will help turn Freeport LNG from an import facility to an export facility. Since the discovery of "fracking" led to a spike in U.S. natural gas production, it undercut the price of the commodity and the facility is part of Freeport LNG's efforts to adapt to that change.

The fact Brazoria County is getting this project at all is a win for the area.

Freeport LNG officials expect the plant to involve more than $4 billion of direct capital investment in the area and add more than 2,000 jobs during the project's four-year construction and up to 190 full-time positions after construction is complete.

That it now will be built in a location less likely to affect the quality of life of existing residents is an even bigger win.

Residents and industry aren't able to come to agreement in every situation where they are at odds, but it's best when they can, and everyone can feel good about the development.

Hide-A-Way on the Gulf residents saw a problem, organized and were vocal in their opposition. They presented reasoned arguments in a unified voice and were successful in getting a large company to move a huge project.

It helped that the land, which had been in negotiations for a golf course, became available about the time Freeport LNG needed it in order to meet its needs.

Still, it speaks well of the company and its responsiveness to area residents' concerns that Freeport LNG officials were willing to investigate other options at all. And the legacy of this project and their fight won't stop there.

Freeport LNG also is working to create a Community Outreach Forum to promote communication between company officials and area residents. It should be available during construction and remain after the plant becomes operational, company officials told The Facts.

Freeport LNG seems determined to be a good neighbor. Through expansion in this area, bringing new jobs to town and its willingness to listen in this case, they are building a reputation as responsible corporate citizens.

Hide-A-Way residents deserve praise, as well, for their interest and determination.

This editorial was written by Yvonne Mintz, managing editor of The Facts.